Volunteer Firemen

MAY 1944

NATIONAL FIRE PROTECTION ASSOCIATION INTERNATIONAL
60 Batterymarch Street Boston 10, Massachusetts

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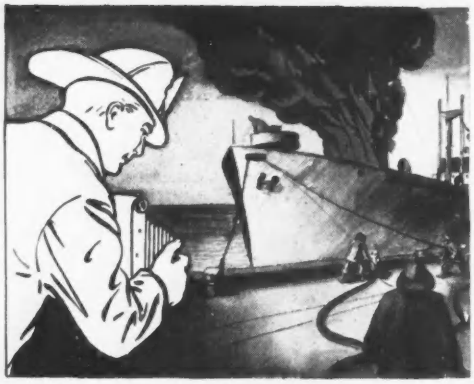

The above illustrations are for your guidance in taking the FOGNOZL pictures. We would like to see a picture of the fire at its height on your arrival, the application of the equipment, and the extinguishment.

$100

FOR YOUR PICTURE

WE OFFER YOU a prize of $100 for the picture (or set of pictures) sent in by any fireman, showing a fire of any kind being extinguished with any of our various models (old or new) of ALL-PURPOSE FOGNOZLS. The only requirement is that the pictures must be of sufficient value to be reproduced and are used in our monthly advertisement on the inside front cover of Volunteer Firemen. We will use the best picture for this purpose and send $100 to the prize-winner.

This offer is open for the next few issues of this magazine only. So get your pictures taken and send them to us at the earliest possible date.

GRISWOLD ORIGINAL
WATER FOGNOZL

- PROTECTION TO PERSONNEL
  TO FIREMEN AND FIRE VICTIMS
- RAPID EXTINGUISHMENT
  A MATTER OF SECONDS
- REDUCED WATER DAMAGE
  A RATIO OF 1 TO 30 GALLONS
- ECONOMY & AVAILABLE SUPPLY
  PLAIN WATER

FOGNOZL FACTS—PREPARE BY ACCUMULATING DATA ON THIS NEW WATER FOGNOZL FIRE-FIGHTING METHOD THAT HAS REVOLUTIONIZED OLD METHODS. FOGNOZL ACCOMPLISHMENTS ARE DAILY EMPHASIZED BY OUR ARMED FORCES. A BROCHURE OF FOGNOZL FACTS WILL BE SENT, WITHOUT OBLIGATION, TO THOSE ENGINEERS OR EXECUTIVES WHO WILL SO REQUEST IT ON THEIR OFFICIAL OR DEPARTMENT LETTERHEAD. IN FOLDER CONVENIENT FOR YOUR FILE.

FOG NOZZLE COMPANY

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THE *Evolution* OF A LADDER TRUCK

In 1904 this AMERICAN-LAFRANCE hand-drawn city service ladder truck, typical of that era, entered active duty in a city fire department.

Briefly its specifications were:

- 112 feet of ground ladders—assorted lengths.
- 2 axes—Fire Department type.
- 35 ft. overall length.
- 5 hand lanterns (oil).
- 6 water buckets.
- 2 pike poles.
- 6 man power.
- 1 coil rope.
- 2 sledges.

Progressively meeting the changing needs of fire departments have brought important changes in 40 years of evolution.

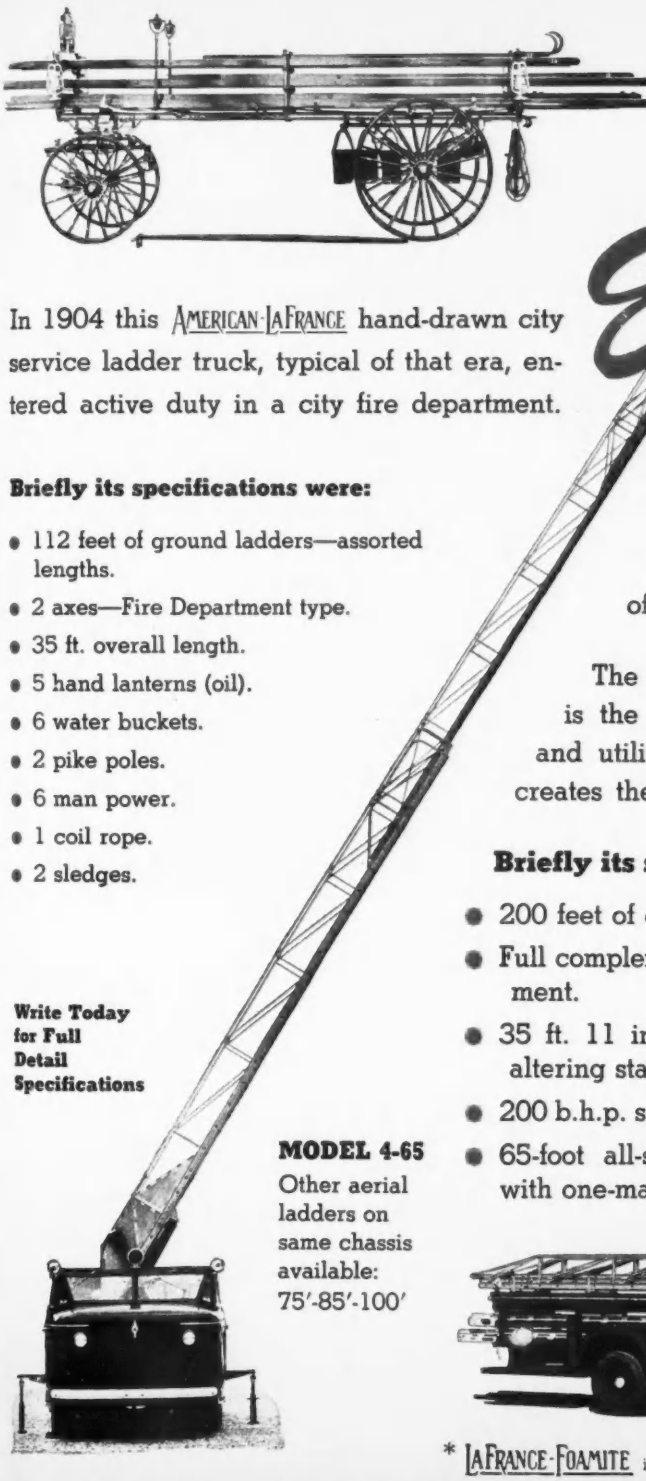
The 1944 * AMERICAN-LAFRANCE city service truck is the finest example of modern efficiency and utility. The addition of the aerial ladder creates the new SERVICE AERIAL.

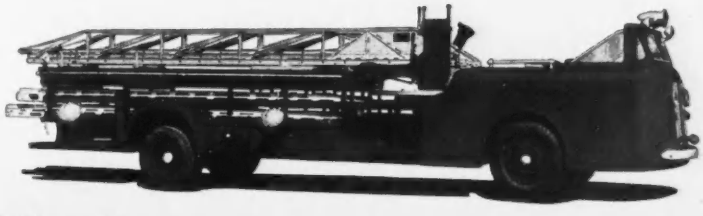
Briefly its specifications are:

- 200 feet of ground ladders—assorted lengths.
- Full complement of entry and extinguishing equipment.
- 35 ft. 11 in. overall length—will house without altering station.
- 200 b.h.p. smooth and powerful V-12 performance.
- 65-foot all-steel aerial ladder—hydraulic power with one-man control for all operations.

Write Today for Full Detail Specifications

MODEL 4-65
Other aerial ladders on same chassis available: 75′-85′-100′





* LAFRANCE-FOAMITE in Canada

AMERICAN-LAFRANCE-FOAMITE CORPORATION

LAFRANCE FIRE ENGINE-FOAMITE LIMITED

FOR FIRE *"use the nearest box and wait for firemen"*

THESE INSTRUCTIONS, PROMPTLY FOLLOWED, WILL AVERT MANY FIRE DISASTERS.

YOUR COMMUNITY SHOULD KNOW THAT DELAYED ALARMS—

are a major factor in the continually increasing fire waste. The estimated fire loss for 1943—$380,000,000.00—is 21% greater than that of 1942—and 41% greater than for 1940.

THE FIRE ALARM BOX—

is the best means for sending an alarm of fire—yet failure to call the Fire Department promptly due to failure to use existing facilities—*or the lack of quickly accessible fire alarm boxes*—annually takes a fearful toll in human lives and property.

YOUR POST-WAR PLANS

are not complete if they fail to provide for adequate fire alarm box distribution.

PUBLICIZE BOX LOCATIONS AND HOW TO USE THEM

We invite your inquiries

THE GAMEWELL COMPANY

Newton Upper Falls, Massachusetts

Volunteer Firemen

LAST month our cover picture showed a fire that destroyed a great industrial plant making Liberty Ship engines. The loss was over $2,500,000. This month the cover picture shows "only a dwelling fire." This is the type of fire that seldom makes headlines, because, as Lincoln said of the common people, "there are so many of them." Each year in the United States, there are some 1,000 dwelling fires a day. Each more or less like the one shown on our cover. These fires cause an average loss of almost a quarter-million dollars daily.

Like almost every dwelling fire, and like the common people that Lincoln spoke of, the fire shown on our cover has an interesting story of its own. This blaze which occurred in Haverhill, Mass., started in a front bedroom (shown blazing furiously) when elderly Mrs. Howard W. Plaisted attempted to light an oil heater in the room occupied by her crippled son Philip G. Plaisted, age 52. The oil overflowed and ignited. The elderly mother and father unsuccessfully attempted to extinguish the fire by tossing carpets over the oil heater.

Responding from his home on the first alarm, Haverhill Gazette photographer, Homer A. Chase, a former substitute fireman, arrived just as firemen from Engine 6 were laying the first line of hose. He was informed by Mrs. Plaisted that her son was still in the house in a state of partial shock, and unable to move further. Chase found the victim in the smoke-filled kitchen on the first floor. A sweater he was wearing was on fire and flames were licking at his face. Chase, who received a burned hand, tore off the sweater and carried the man to a neighbor's house where he was given first aid for second degree burns and shock before being taken to a hospital.

Chase then snapped the picture shown on the cover. The fire spread into partitions and extended to the roof, breaking through in several sections. A second alarm was sounded four minutes after the first. The loss from this typical dwelling fire was only $2,000 — one of the many smaller contributions to America's rapidly rising fire loss.

In addition to the large monetary loss from dwelling fires many of these fires present a distinct life hazard as in this typical case.

The publishers of VOLUNTEER FIREMEN *are making every effort to conserve paper in compliance with the limitation orders of the War Production Board. Your efforts to save all possible waste paper are also important to the winning of the war.*

Volume 11 **Number 5**

Published by the National Fire Protection Association, a voluntary non-profit organization, 60 Batterymarch St., Boston 10, Mass.

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THE VOLUNTEER FIREMAN

ARSON is one of the foulest of crimes. That incendiary fires are increasing is a serious matter to a nation at war. The following bulletin sent to the volunteer fire departments of Nassau County by the County Fire Commission deserves the attention of every fire department:

"The detection of fires which are intentionally set is more important today than ever, because they are increasing in number and there is every indication they are going to continue to increase; property destroyed is most difficult, if not impossible, to replace; avoidable fire alarms add to the already heavy burden placed upon undermanned fire departments and every set fire in time of war is sabotage.

"Successful arsons are those which have progressed so far, before discovery, as to totally destroy the point of origin or in which evidence is overlooked, discarded or destroyed by the firemen.

"The arsonist is one of the most dangerous criminals. No one can do more toward catching him than those who first arrive at the scene.

"Firemen should, therefore, learn to recognize the work of the firebug. The most outstanding indication is two or more separate fires with no apparent connection, but any condition which does not clearly indicate the fire was of legitimate origin should be regarded with suspicion.

"When suspicion is aroused, it is then of vital importance that nothing is disturbed unless absolutely necessary for extinguishment of the fire.

"Very frequently evidence is swept out or moved and articles of furniture shifted before investigating authorities arrive and the picture they see is very different from the way things looked during the fire.

"Evidence must be photographed in its original position if it is to be used in Court and once it has been moved it cannot be put back for the purpose of taking pictures.

"All articles and conditions which tend to indicate the cause of the fire or its motives should be carefully preserved and *not handled*, spoiling possible fingerprints.

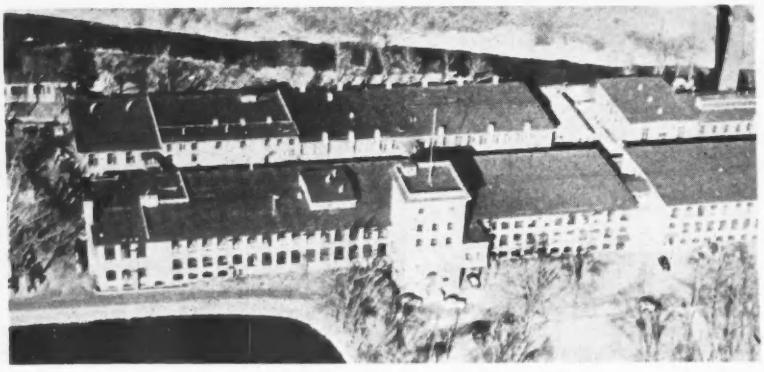
"The only exception is where there is immediate and serious danger the evidence will be destroyed by the fire, in which case conditions should be called to the attention of several official witnesses and carefully removed to safety. Then as soon as possible, statements taken from each witness and a diagram drawn, if possible.

"Other vital matters are the source and time of alarm and just which fireman first entered the building, at each point, and how.

"The work of investigators goes far beyond the actual physical evidence, for the purpose of establishing motive and opportunity, but the first essential is determination of cause and without the intelligent assistance of the firemen there is little hope of success. The firebug avoids the community where the firemen are alert and on their toes."

The above suggestions may help fire departments prevent this form of home-front sabotage.

Millions of Shoes Burn in U. S. Warehouse



ONE of the greatest fires thus far this year and possibly the largest U. S. fire loss since the burning of the Steamer *Normandie*, began on Monday morning March 6, 1944, in the little northern New Jersey town of Rockaway. The fire burned for more than eight days and destroyed a warehouse used by the U. S. Government for the storage of Lend-Lease supplies. This was one of two old former mill buildings at this location leased by the Treasury Department for storage of shoes and blankets to be given to the inhabitants of the North African war theatre. No official inventories of the fire damage have been made public but it has been variously reported that the burned warehouse contained from 3,000,000 to 7,000,000 pairs of shoes and 200,000 blankets. The loss has been estimated at from two million to more than eleven million dollars.

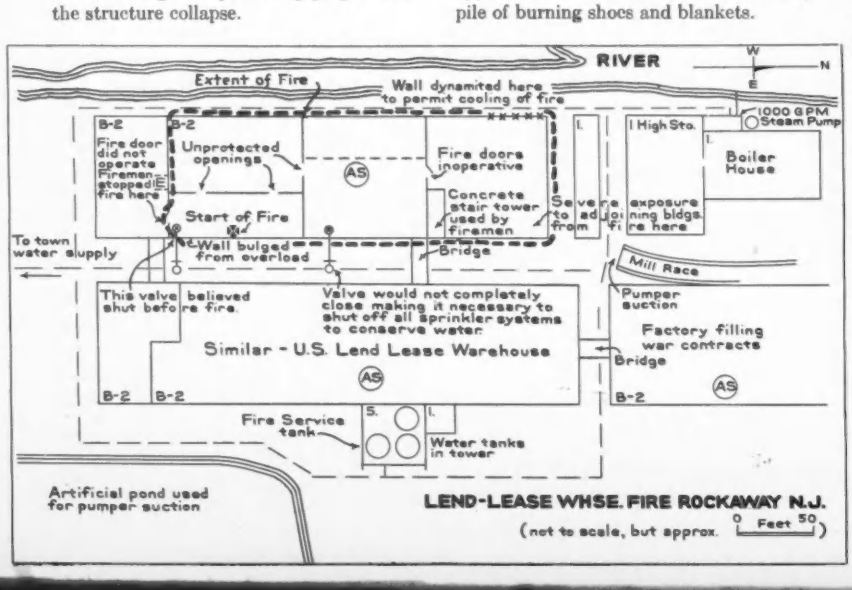
The burned warehouse was overloaded with stock piled up to the roof timbers, with very scant aisle space and insufficient clearance to permit effective sprinkler operation.

On the Saturday before the fire, this overload caused the walls in one section to bulge outward and caused the second floor to sag. Sprinklers in this section were evidently shut off in anticipation of possible breakage of sprinkler piping should the structure collapse.

The sagging floors caused an electrical short circuit igniting stock. During Sunday night U. S. Guards smelled burning insulation but could locate no fire. They were unable to obtain electric light in this section and an extension light brought in from an adjoining section gave only a feeble glow indicating a ground. No fire was discovered until workers opened the building Monday morning and an intense fire broke out.

Fire doors had not been properly maintained and the fire spread rapidly to adjoining sections of the warehouse overtaxing the sprinklers in these areas. Then the sprinklers in the entire plant group had to be shut off to save water supplies. Firemen were able to save the east end of the burning warehouse by protecting the fire door opening with hose streams. Fire fighters also did excellent work in protecting the other warehouse which was seriously exposed for more than a week, and in protecting manufacturing buildings nearby.

Firemen called upon to fight the blaze included men from Boonton, Denville, Dover, Hibernia, Morris Plains, and Mount Hope. Some 24 hose streams were used. At one point the warehouse walls had to be dynamited to permit effective application of hose streams on the huge pile of burning shoes and blankets.



AFTER regular fire department pumpers had been in operation for several days a dozen O.C.D. pumping units were assembled to serve as relief pumpers.

Chief John J. Cullinan of the Morristown Fire Department sent three O.C.D. auxiliary pumpers to the fire. A portion of his report to O.C.D. follows. It is of interest because it shows the type of service that may be obtained from the some 18,000 pumping units distributed by O.C.D.:

"Although this fire broke out on Monday morning, March 6th, we did not dispatch any equipment or men until Wednesday afternoon, March 8th, when Acting Chief Hopler, of the Rockaway Fire Department called and asked for assistance. It had been decided at this time to release regular fire department pumping engines and replace them with O.C.D. pumping units. We immediately dispatched our trailer pumping unit attached to the Board of Fire Wardens' apparatus. This unit is a contrifugal pump having a capacity of 500 G.P.M. An ample supply of O.C.D. hose was also sent along. A large reservoir was nearby on the ground, so water was plentiful.

"This pumping unit was placed in operation at 3:10 P.M., with two 2½-inch hose lines, 400 feet each, siamesed into a deck pipe with a 1⅛-inch tip. This pump operated continuously for 11 hours, at 135 lbs. pressure, discharging 432 gallons per minute, at a nozzle pressure of 47 lbs. In addition it operated for 15½ hours at 100 lbs. pressure, discharging 365 gallons per minute, at a nozzle pressure of 30 lbs. In all, after pumping for 26½ hours, a total number of 624,570 gallons of water was pumped on the fire.

"That same day, March 8th, Alexander Milne, of the Regional Office of the O.C.D. received a request for more O.C.D. pumping units. Mr. Milne's office contacted me regarding two skid pump units which we had. These units were also sent to the scene being transported by our Water Department truck equipped with a ton and a half winch, which was very useful in loading and unloading these units, as they weigh nearly ½ ton each.

"These units worked side by side, draughting from the reservoir, each had one line of 2½-inch hose, 300 feet long, which stretched on the ground for about 75 feet, up the side of a two-story building, across the roof into a siamese portable deck pipe with a 1⅛-inch tip. This deck pipe was sent along with our equipment by Chief Freelan Green, of the Morris Township Fire Department. The pumps started operating at 8:05 P.M., March 8th, and continued to operate until Sunday, March 12th, being shut down only for a short period to change the oil. Thereafter only one of these units continued to operate with both lines, wetting down the smoldering ruins. This unit remained in operation until Friday, March 17th, when it was shut down. From the time these pumps were put in operation a pressure of 110 lbs. was maintained, with a nozzle pressure of approximately 37 lbs., discharging approximately 408 gallons per minute. The approximate number of gallons of water pumped by these units totaled 2,288,880 gallons. All of our pumping units were manned by the paid members of our department. Volunteer and Auxiliary Firemen of our department also rendered assistance during the time of this fire.

"The fire was finally declared out on Sunday, March 19th.

"This was the first opportunity we had to use this equipment since we received it. These pumping units were put to a very severe test and proved to be very valuable assets in fighting this fire to a finish. No break downs were encountered and except for an occasional shut down to change oil or move the lines of hose, these units operated at a high degree of efficiency."

"Respectfully yours,
"JOHN J. CULLINAN."

22 Persons Dead in San Francisco Blaze

TWENTY-TWO persons died and 29 others were injured when the so-called "New Amsterdam Hotel" in San Francisco was swept by fire on March 28th. According to Fire Marshal Frank P. Kelly, the fire was definitely of incendiary origin, one of a series of such blazes. It was the worst catastrophe from a loss of life standpoint in San Francisco since the 1906 earthquake.

The fire flashed rapidly through the three-story building shortly before midnight. The structure was of brick construction on the street floor and frame stuccoed above. The interior was of combustible construction. The original Health Department permit to operate as a rooming house, issued in 1916, covered 97 rooms of which 81 were bedrooms. At the time of the fire some 75 guest rooms were being used. Each year since 1925 the Health Department is reported to have refused to certify the building for hotel occupancy.

Most of those burned to death were tenants of inside rooms. Their escape was cut off from both stairways and the fire escape by flames that swept the hallways. Fire Chief Sullivan reported that many victims were asleep. Interior fire alarm equipment and exit facilities meeting N.F.P.A. Building Exits Code requirements would do much to prevent such tragedies.

●

Chief John S. Pachl Training Consultant for Connecticut

DR. A. M. McCULLOUGH, Director of Public Service Training, has announced that the Connecticut Department of Education has appointed Chief John S. Pachl of the New Haven Annex Fire Department, to be full-time consultant in firemen's training for the State of Connecticut.

Chief Pachl, who is on leave of absence from his department, will supervise the regular training program conducted by the State Department of Education this year. This program is sponsored co-operatively by the State Department of Education, the Connecticut Fire Chiefs' Club, and the Connecticut Fire Department Drillmasters' Association. The courses are given at regional meetings, and are established primarily for the benefit of volunteer departments. During the past five years 1,500 firemen have received training under this program.

Chief Pachl, who has been chief at New Haven Annex for 23 years, is a past-president of the New England Fire Chiefs' Association.

Former Chief Irby M. Klinck Dies at Memphis, Tenn.

FRIENDS of the Fire Department Instructors Conference will be grieved to learn of the death of former chief Irby M. Klinck, who died of cerebral hemorrhage on March 22nd, at the age of 62. After forty years in the fire service, 9 of them as chief, Chief Klinck retired due to ill health. In his years as chief, Memphis fire losses were cut $5,000,000 compared with a similar period before he took office. During his tenure of office Memphis four times won the national Fire Prevention Week Contest. While chief, he was host to the F.D.I.C. each January.

How Received: Phone ☒ Box ☐

The Dalles Fire Department

Pumper Performance Report No. 3-44

Date 2/5/44 Time 1:50 AM Location West Waterfront Driver C.H.L.

Occupancy Tug; Barge; Warehouse Construction Steel; Frame; Frame No. Floors 2

Origin of Fire Barge "Swan" Extent Total on barge; Tug 10%; Warehouse scorched

Cause unknown Owner Columbia Marine Shipyard Address City

Occupant(s) Columbia Marine Shipyard

Pumper No. One Rated Capacity 600 How employed: Draft ..... Hydrant ✓ Line ..... Booster .....

Location of Pumper yard hydrant

No. Lines Connected 2 No. Streams Supplied 2-3 Hand X Heavy .....

Details on Lines Used:

	Size	Length	Size Nozzle	Eng. Pres.	Discharge	How Employed
1.	2½	250	1" and Fog	90-100	240	West end line
2.	2½	450	1" smooth bore with shut-off.	90-100	233	East end line
3.						
4.						

Elevation of streams: 1. -10' 2. -30' 3. ..... 4. .....

—Over—

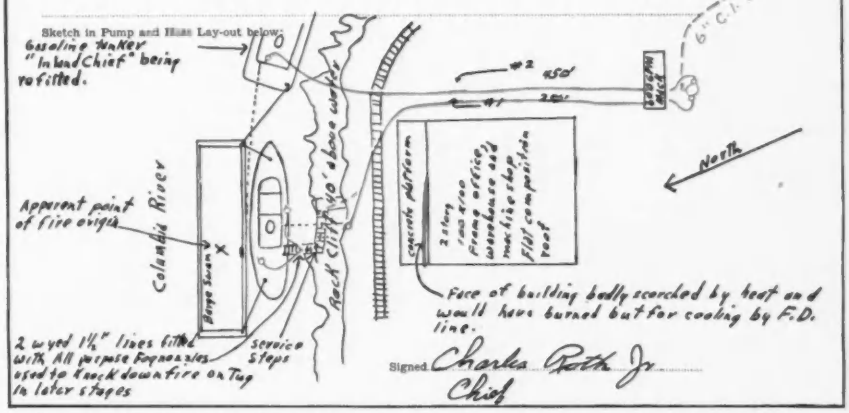
Total Time Pump Used: 2 hours From 2 AM to 4 AM Gallons Gas Used 7

Gallons Water Used From Booster Tank —

Discuss any Streams that were not entirely satisfactory or could have been improved:

all very good.

Sketch in Pump and Hose Lay-out below:

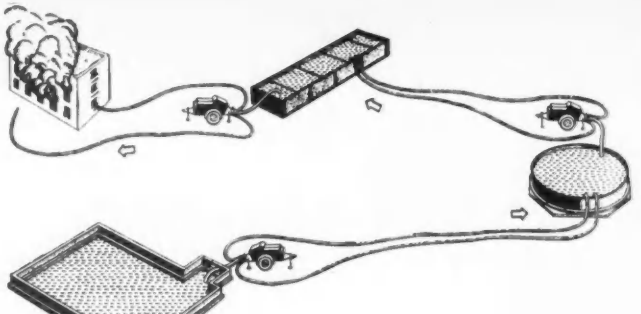

Gasoline tanker "Inland Chief" being refitted.
#2 450'
#1 250'
6" C.I. dead end
North
Apparent point of fire origin
Columbia River
Barge Swan
Rock Cliff 40' above water
Concrete platform
2 story 1st floor office warehouse and machine shop Flat composition roof
Face of building badly scorched by heat and would have burned but for cooling by F.D. line.
2 wyed 1¼" lines fitted with All purpose Fog nozzles used to knock down fire on Tug in later stages
service Steps

Signed Charles Roth Jr. Chief

Chief Charles Roth, Jr., Fire Department, The Dalles, Oregon, sent in a very interesting report of a fire which involved a barge equipped as a machine shop. A tug boat pilot up the Columbia River observed the fire for half an hour before the alarm was given at 1:50 A.M. Nevertheless, the loss was held to $84,650 of the $320,000 values at stake. Chief Roth says the idea of pumper performance chart (shown in reduced size above) was taken from VOLUNTEER FIREMEN. However, his is an improvement over the one shown in our January issue. Note how much useful information is readily assembled on this simple chart.

British Wartime Emergency Water Tanks (Dams)

This is the official story, used by permission of His British Majesty's Stationery Office through the courtesy of the British Information Services (Crown copyright reserved). The diagrams and the text are from the Manual of Firemanship (Part 3) by and for Britain's National Fire Service. The text is reproduced without change, with editorial notes in parentheses where terms different from those ordinarily used in U. S. and Canadian fire departments are employed. In succeeding issues other features of British practice in the use of water for fighting fires, particularly air raid fires, will be presented. Watch for them.



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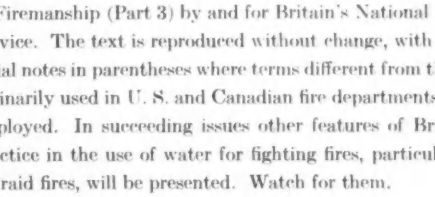
How dams [emergency water tanks] are used in a relay operation.



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Canvas dam ("Sportapool" type) with self-supporting walls. Common sizes have the following capacities: 500, 1,000, 3,000 and 5,000 gals. [600, 1,200, 3,600 and 6,000 U. S. gals.]. Diameters respectively 7 ft., 9 ft., 15 ft. and 18 ft. Heights respectively $2\frac{1}{2}$ ft., $2\frac{3}{4}$ ft., $3\frac{1}{4}$ ft. and $3\frac{3}{4}$ ft.

ALTHOUGH, for reasons of convenience and ease of reference, all types of dam [tank] are dealt with in this, a distinction must be made, and maintained in the mind of the reader, between dams [tanks] needed for the permanent storage of water, and those erected or employed temporarily in relay operations.

In general, canvas dams are not suited to permanent water storage. The canvas is easily damaged and liable to rot, and rapidly deteriorates if brought into contact with certain other materials, such as rusty iron. Therefore, though they were so used for a period at the outbreak of the second World War when permanent types were not available, this practice has now been discontinued.

Dams for permanent storage, with the exception of a few underground tanks provided in some cities, are a result of war conditions. Temporary canvas dams, however, were in regular use by many brigades before the war.

Types of Water Storage

Eight principal types of dam or water storage may be listed:

(*a*) Dams made of canvas with self-supporting walls.
(*b*) Dams consisting of a canvas sack supported by a steel frame.
(*c*) Gulley dams.
(*d*) Dams consisting of sheet steel built up into a wide range of shapes and capacities.
(*e*) Timber dams.
(*f*) Concrete surface water storage.
(*g*) Flooded basements.
(*h*) Artificial basins.

[There are accompanying illustrations of (*a*), (*b*), (*c*), and (*d*).]

Wooden Tanks

A certain number of circular timber dams were built at a time when the shortage of steel was leading to a search for alternative materials. Timber tanks have the disadvantage of being somewhat more vulnerable to bomb splinters than steel tanks, and large holes are difficult to repair. These tanks are erected on a concrete base with a shoe fitting round the bottom of the wooden timbers. They are built up somewhat like a barrel, of staves 9 in. wide by 3 in. thick, with steel banks and tensioning bolts. In one example the dam is 75 ft. diameter, 9 ft. deep, and has a capacity of 250,000 gals. [300,000 U. S. gals.]

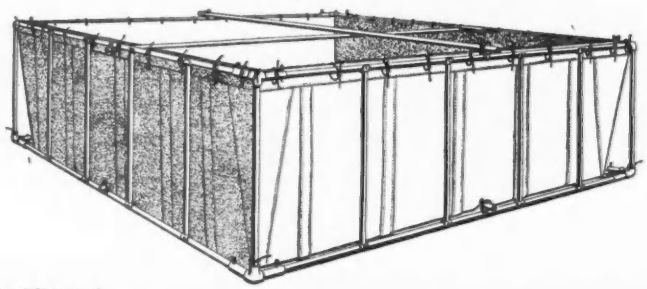
Concrete Tanks

In many towns steel dams have been supplemented by reinforced concrete storage basins constructed above ground. There is no standardised design for these, since they are built to local requirements. Capacities of such tanks vary widely, but usually range from 10,000 to 250,000 gals. [12,000 to 300,000 U. S. gals.].

They may also be constructed of brick with a suitable waterproof lining. Where space permits, earth may be banked up around the walls as a protection against bomb splinters and other damage. Smaller types are often found in the main streets, where they are built of reinforced concrete directly on the road surface. The walls are surfaced with a waterproofed cement rendering. In this category may also be placed the circular and rectangular tanks built up

Canvas dam with tripod. Diameter at top 18 in., $26\frac{3}{4}$ in. high, capacity 20 gals. [24 U. S. gals.].

Gulley dam, a waterproof sack which forms a sump into which water flowing along the gutters can be collected.



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Steel scaffolding dam, 5,000 gals. [6,000 U. S. gals.]. Overall size, erected, 15 ft. 7 in. square and 4 ft. 6 in. high.

of precast slabs and concrete that may occasionally be found.

Flooded Basements

In a number of cases where houses or other property with suitable basement accommodation have been partially or wholly demolished by enemy action, opportunity has been taken to clear away the material and open up the basement. This is then given a waterproof lining, the construction of which depends to a considerable extent on the building involved. The lining ranges from a fairly heavy reinforced concrete slab to a light screeding of waterproof cement or asphalt. A large number of such flooded basements have been constructed in the larger cities and have proved a very successful form of water storage.

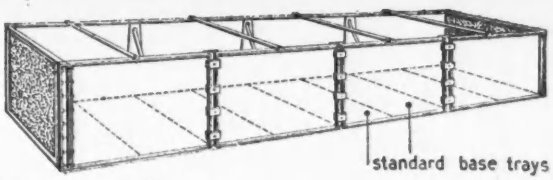
Care must, of course, be taken in the selection of suitable sites to make sure that there is no danger of the walls collapsing under water pressure, or as the result of bomb damage, and flooding adjacent property. This risk is particularly grave in relation to air raid shelters. The capacities of basements so far constructed range from 10,000 to 250,000 gals. [300,000 U. S. gals.].

Basins or Reservoirs

Where suitable vacant land is available in high risk areas it has, in many cases, been found more satisfactory to construct a basin that will make the best available use of the site than to use batteries of steel dams, not only because the total water storage can be made greater, but also because of the saving in essential materials. Artificial basins vary greatly in capacity, the range being much the same as in the case of flooded basements.

Locating Tanks

The siting [location] of storage dams will be carried out with attention to the fire risk and the water relaying plans of the Water Officer. Especially, however, in the case of basement dams and the large concrete basins, care must be taken to site them where they can be approached by several alternative routes, so that they are not put out of action by the blocking of approach roads and are also far enough away from any large building to allow access even should that building be on fire. [The Water Officer in the National Fire Service has no exact counterpart in U. S. and Canadian fire departments. He is one of several officers for which there appeared no need in peacetime, but which are essential to fire department work on wartime fires. He is usually on the staff of the Fire Force Commander.]



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Steel dam. The basic capacity is 5,000 gals. [6,000 U. S. gals.], but by increasing the number of sections, capacities of up to approximately 40,000 gals. [48,000 U. S. gals.] may be obtained. Larger capacities may be arranged by compounding a number of dams into batteries. Typical installations carry up to 200,000 gals. [240,000 U. S. gals.], each dam having a discharge leading to a common sump into which pumps can set their suctions. These steel dams are made up from standard flanged trays 7 ft. 1 in. by 3 ft. 8 in., 18 being required for the 5,000-gal. type.

E. W. S. Maintenance

When steel and canvas dams were originally put into service it was the custom to sandbag them in order to protect them from bomb splinters. This practice was afterwards discontinued for two reasons, that the cost of the sandbags was disproportionate to the cost of the dam, and that their proximity to the metal or canvas exercised a corrosive effect. Steel or canvas dams should not be sandbagged save in very special circumstances. As far as possible without detracting from their usefulness, they should be sited where they receive a measure of protection from adjacent walls and houses.

Tanks, basins, pipelines, and other works should be inspected regularly, as a routine duty, at such intervals as prove practicable.

It should be understood that the maintenance of rectangular steel tanks, surface steel pipes and the carrying out of minor repairs to other works, is the duty of the [National] Fire Service.

The Fire Service is responsible for making sure that the emergency water supplies present no greater danger to the public, and especially to children, than is absolutely unavoidable. Basement installations, which are the most dangerous, must be protected so that passers-by are not endangered. The best practice is to build a masonry wall round the basement, having a hatch through which suctions can be lowered into the water.

Some circular or rectangular steel tanks above ground have been protected with a steel mesh cover, and surface basins by chestnut fencing, but these methods of safeguarding the public have been found unsatisfactory, and all unprotected tanks and basins, and those where the protection is not wholly adequate, should be safeguarded with a strand of barbed wire supported on angle-iron supports turned inwards and strung loose enough to allow the insertion of the suction strainer of a pump. The channel clips over the vertical joints of rectangular tanks should be protected with a strip of thin sheet metal or wood to prevent children climbing them, while all flat walls protecting surface basins should be given an inverted "V" coping.

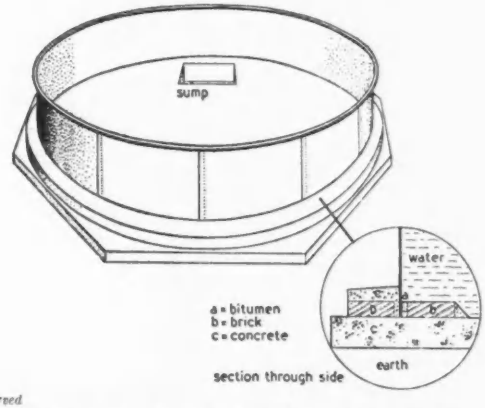
In the case of open basins which are large and deep, a lifebuoy may be provided if the local authority asks for this precaution, or if it is considered that there may be a special danger to firemen in making use of the basins, or if, for any reason, there is an unusual risk of accidents occurring.

It is an offence (Regulation 28B) under the Defence (General) Regulations, 1939, to: (*a*) Throw, put or pour anything into any water stored for the purpose of fighting fires;

(*b*) Climb into, on or over any tank used for storing water, etc., as aforesaid;

(*c*) Interfere with any pipes, values, or the apparatus used or intended for use for the purpose of fighting fires.

(*Continued on Page 26*)



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Circular steel dam with concrete base showing the method of making a watertight seal. The tanks commonly found are built up from standard flat 20-guage steel sheets approximately 8 ft. by 4 ft., with specially shaped split tube steel nosings. Two sizes are in use, the first composed of 10 sheets having a radius of 12 ft. 2½ in. and a capacity of 11,500 gals. [13,800 U. S. gals.], and the second of 14 sheets having a radius of 17 ft. 1 in. and a capacity of 22,500 gals. [27,000 U. S. gals.]. Both types have a depth of 4 ft.

Electrical CONDUCTIVITY OF HOSE STREAMS

PURE water is a relatively poor conductor of electricity as may be shown by laboratory tests. However, water as encountered in hose streams is seldom chemically pure and under some conditions may conduct dangerous amounts of electric current through a solid stream. Tests on both hose and extinguisher streams show that while electrical hazards to fire fighters are only moderately serious, the danger in a given situation should be recognized.

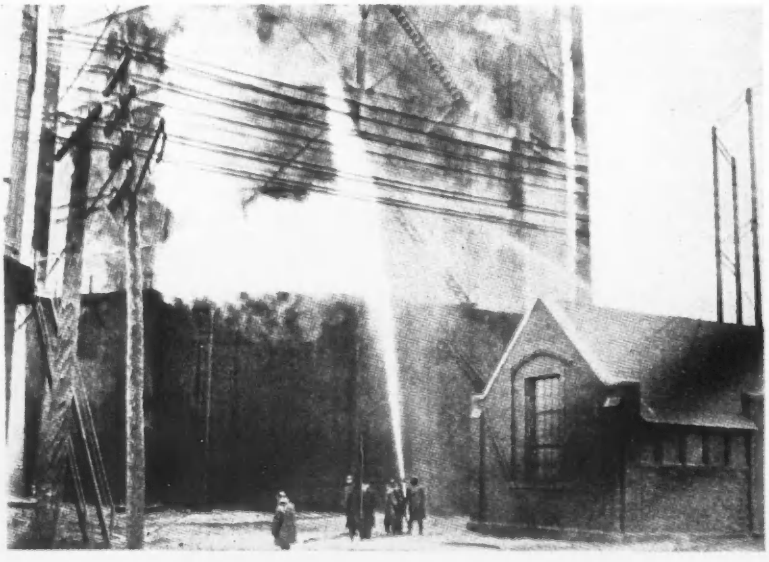
Under normal conditions it is usually best to make electrical equipment dead before projecting fire streams upon it from close range. However, there have been numerous cases recently where fire departments have needlessly requested that high tension lines be de-energized due to unfounded fear of the electric current. In a number of cases this de-energizing of electric lines has interrupted important troop and freight trains, and has deprived vital war industries of power. If firemen were familiar with the voltage-distance table on this page they would know that they can safely use solid hose streams on fires near 11,000 volt railroad high tension lines if the nozzle is kept 20 feet from the wire when using fresh water and 30 feet when using salt water. Fog nozzles may be used as close as 6 feet from high tension lines. It would be desirable for fire officers to know the amount of current carried in nearby power lines so that they would know the safe distances for hose streams.

There is ordinarily no danger to firemen from playing hose streams on low-voltage circuits, although electrical equipment should always be approached carefully during a fire owing to the possibility of some electrical breakdown imposing an abnormal voltage on low voltage lines. The chief danger to firemen lies in accidental contact with live wires or equipment, or stepping in pools of water which are electrically charged. Rubber boots may not give adequate protection against such electrical charges due to carbon and other electrical conductors in the rubber compounds.

Most large city fire departments have standing orders to notify the power company immediately and let them handle wire cutting and similar electrical problems at fires. Of course, this does not mean that firemen cannot throw a switch to cut off service from a burning building, but that jobs involving electrical hazard and a special knowledge of the electrical facilities involved, are to be done by the appropriate utility. Every fire department should have an understanding with their local power company regarding procedures for handling electrical services involved in fires.

Streams from large nozzles conduct more current than small nozzles because the conducting stream of water is larger.

Beyond the point where the stream breaks, little or no current will be carried, as the separate drops of water do not form a continuous electrical path. As reported in VOLUNTEER FIREMEN for March, recent tests show that spray nozzles may be used safely in fighting fires in high voltage electrical equipment. Streams from spray nozzles on both 1½-inch and 2½-inch hose projected against a screen carrying voltages up to 144,400 from a distance of six feet, did not conduct enough current to be felt by the average person. This would indicate that where there may be danger from high voltage wires near a fire a spray nozzle may be used safely.



Solid streams from large nozzles may conduct high voltages as much as 30 feet because the solid stream carries further before it breaks. However, an increase in pressure above that normally used for a given nozzle decreases the distance of conductivity because at high pressures the stream breaks nearer the nozzle.

Many authorities consider that a current of 0.5 ampere passing through the human body is about the lower limit likely to cause death.

The following table gives the minimum distances between a 1⅛-inch nozzle and live electrical equipment to avoid danger of fatal shock to firemen at the nozzle.

Voltage	Distance in Feet	
	Fresh water	Salt water
1,100	6	25
2,200	11	25
6,600	19	30
11,000	20	30
22,000	25	30
33,000	30	35

FROM one series of tests with small streams it was concluded that ¼-inch streams could be operated safely within 15 feet of live electrical equipment which might be struck accidentally; and for ⅜-inch streams, the safe distance is 20 feet.

Tests have also been made which show that the stream from a calcium chloride extinguisher will conduct a small current 6 feet, soda-acid streams 4½ feet, foam 5 inches, and water 2 inches. Vaporizing liquid type extinguishers (carbon tetrachloride) and inert gas types (carbon dioxide or dry chemical) are safe at all distances at which it is safe for a person to approach any live equipment, since their discharges are non-conducting.

On live apparatus, water, soda-acid, calcium chloride, or foam will cause arcing and may produce short circuits which would seriously damage the apparatus. When these extinguisher streams are used at close range, they may conduct enough electric current to shock the operaor sufficiently so that he would stop fighting the fire. Above 550 volts the results might be fatal. These liquids also may damage windings and laminations. If necessary to use them, owing to lack of proper extinguishing agents, the current should be cut off before attempting to put out a fire.

Considering the fact that most buildings involved in fires are wired for electricity, surprisingly few serious electrical accidents to firemen have been reported.

Power company experts caution firemen not to think that they can appraise the relative power carrying capacity of an electric line by noting the type of conductor used. This is said to be a dangerous practice, as some conductors carrying high voltages closely resemble others commonly used for low powered lines.

WARD LaFRANCE TRUCK DIVISION

GREAT AMERICAN INDUSTRIES INC

ELMIRA GAI NEW YORK

MEMORANDUM TO THE ADVERTISING AGENCY

FROM: A. Ward LaFrance, Vice President
Great American Industries, Inc.

SUBJECT: POSTWAR FIRE APPARATUS

You know about the intensive developmental work on postwar fire apparatus which our engineers have been conducting, and you will be interested in the summary of hundreds of helpful replies to our questionnaire addressed to representative fire chiefs, who were good enough to assist us with their ideas. These replies are convincing evidence that we have been proceeding along the right lines.

I know your artists are itching to draw handsome pictures of super-streamlined postwar Ward LaFrance equipment, after looking over our engineering visuals -- but let's not attach too much importance to mere appearance. Fire apparatus has a vital job to perform, and fire protection people are as practical as the day is long.

When you have occasion to refer to postwar Ward LaFrance equipment, please make it clear that what we are shooting at is maximum fire-fighting ability per pound. That means motors and chassis designed specifically for fire-fighting purposes, the best possible arrangement of controls and connections, the most practical locations for hose reels and ladders, better seating accomodations for the crew, more carrying space for auxiliary equipment, greater safety for firemen, and ability to get into extinguishing action sooner, to mention but a few of the really important factors.

Fire departments are seriously hampered by inability to secure much-needed equipment. They not only want to know that better apparatus than ever is coming -- they want to know how soon. They will be glad to know how quickly we will return to full civilian production as soon as war demands have been met. And, by all means, urge them to consult us now. We can fill their needs much sooner if we can start now to plan for meeting the particular requirements of their communities.

A. Ward LaFrance

A. Ward LaFrance.

GREAT AMERICAN INDUSTRIES, INC., GENERAL OFFICES, MERIDEN, CONNECTICUT
DIVISIONS
CONNECTICUT TELEPHONE & ELECTRIC DIVISION, MERIDEN, CONNECTICUT
WARD LaFRANCE TRUCK DIVISION, ELMIRA, N. Y.—FACTORY BRANCH, 139TH ST. & EASTERN BLVD., NEW YORK
VIRGINIA RUBATEX DIVISION, BEDFORD, VIRGINIA
RUTLAND ELECTRIC PRODUCTS DIVISION, RUTLAND, VERMONT

British Fire Fighters at War Work

One London fire station makes 1,500 to 1,600 air filters a week. The firewomen shown assembling the filters plot the locations of fires and other incidents on the large scale map of the district shown in the background.

A station in the east end of London produces 300 control units for night fighters each week. An instructor from a factory supervises the work each afternoon and inspects the units in the morning while firemen are busy with station duties.

FROM time to time VOLUNTEER FIREMEN has published reports of the contributions that volunteer fire departments in the United States are making to the war effort. In this connection it may be of interest to know something about what British firemen and firewomen are doing to speed the day of victory in addition to their arduous fire-fighting duties

In the first place, it will be recalled that the British fire service has been nationalized for the duration. Due to the manpower and womanpower shortage, full-time fire fighters in that country are on duty long hours — averaging 48 hours on duty for every 24 hours off. During periods of air raid activity these long hours were very trying because it was frequently impossible for personnel to get adequate rest. During the stand-by periods between raids and routine fires, the long hours also weigh heavily, but they no longer go to waste. Many fire service workers had been recruited for wartime fire fighting from other trades. Tired of waiting for calls after the blitz slackened off, they approached their officers and suggested that they could make the war end quicker by doing war work while "standing by" in the stations.

Today each station doing war production work has chosen a committee of three, one from each watch, including a production manager. Some of these fire station production managers have visited factories learning the processes. Some factories have sent teachers to the fire stations. The factories provide work, material, tool, and transport. They report that the work done by the fire service members is equal to that done in the plants.

In the London region alone, men and women of the National Fire Service did 700,000 man-hours of productive work in the year ending October 31, 1943. Thus the production work by the fire service has helped smash many production bottlenecks due to the man-power shortage.

It is regrettable that there are no figures for the United States showing how many million man-hours a month the volunteer firemen of this country are putting into war production and still protecting their communities against fire. Also, while probably few paid fire departments in the United States and Canada have war production work underway in their fire stations, a very large number of the paid firemen are doing war work on their off shifts.

Left. Firemen assemble air lines for military vehicles in this fire station. The fireman with the bandaged arm has just been a blood donor.

Right. These fire fighters drop their production work and race for the appliances when the bell rings. This is another proof that fires do stop production of essential war materials.

All photos courtesy British Information Services

At this waterfront fire station firemen are making paddles for assault craft. The paddles come from a factory in the rough and are hand finished. One of the firemen went to the factory to learn the processes.

This is the control room of a big fire station. The fire appliance mobilizing board shows the movements of equipment in a large area. The firewomen, bored with waiting for air raid fires, assemble tank intercomm. telephone plugs.

A.D.T

PERFORMANCE

1 9 4 3

ACTUAL STATISTICAL ANALYSIS is the most convincing proof of performance. And the figures below—analyzing A. D.T. performance for 1943—prove the sustained effectiveness of A. D.T. protection services in minimizing losses due to fire, holdup and burglary.

SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE

Supervisory alarms, indicating impairments of sprinkler systems . **123,446**

Waterflow alarms, indicating fire conditions or serious leaks . . . **2,828**

Percentage of fire and water damage losses to insurable values of protected properties . . . **2/100ths of 1%**

During the past ten years, subscribers to A.D.T. Sprinkler Supervisory and Waterflow Alarm Service have enjoyed 99.98% IMMUNITY FROM FIRE AND WATER LOSSES.

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WATCHMAN SUPERVISORY AND MANUAL FIRE ALARM SERVICE

Investigations of failures of watchmen to signal on schedule . . . **211,134**

The total number of signals supervised was approximately 321,322,-270; hence, the watchman patrol efficiency was **99 93/100%**

Manual Fire Alarms handled . . **1,805**

Percentage of fire losses to insurable values . . . . . **6/100ths of 1%**

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BURGLAR AND HOLDUP ALARM SERVICE

Burglars captured as a result of A.D.T. alarms **303**

Percentage of losses in attacks on A.D.T. protection to insurable values protected . . . . **5/1,000ths of 1%**

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A.D.T. Central Station Protection Services are available in all principal cities of the United States. Booklets describing the services and full information will gladly be sent upon request. Write to A.D.T. Executive Offices, 155 Sixth Avenue, New York, N.Y.; or your nearest A.D.T. Central Station Office.

A.D.T. ELECTRIC PROTECTION SERVICES

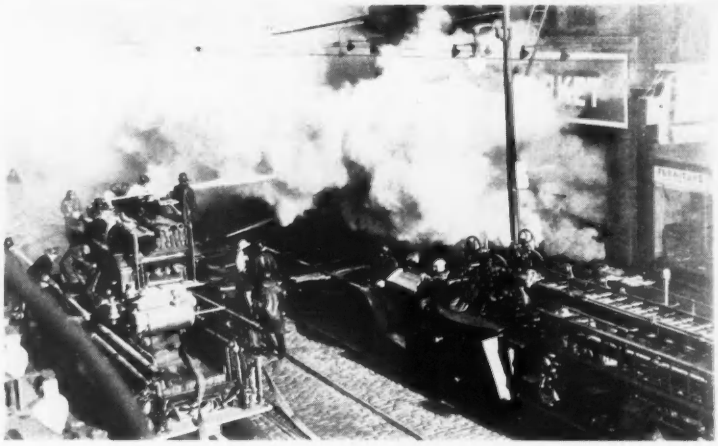
Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.** *155 Sixth Avenue, New York*
CENTRAL STATION OFFICES IN ALL PRINCIPAL CITIES OF THE UNITED STATES

Electric Protection Services
AGAINST FIRE · BURGLARY · HOLDUP
A NATION-WIDE ORGANIZATION

A.D.T

MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL



Working in Smoke

ONE of our most common mistakes in the average routine fire-fighting job is that we are apt to be too much afraid of smoke. There is some reason to be respectful of smoke in a basement or cellar fire. There is also reason to shun smoke known to come from burning materials that may give off noxious vapors, but it takes a lot of smoke from an ordinary fire, disagreeable as it may be, to stop the average healthy fireman. Many an experienced fireman finds intense heat more trying to work in than smoke.

It is usually considered poor practice to go into any particularly smoky place alone if that can be avoided. When entering a smoke-filled space your companions should be informed regarding what you intend to do. It is also a good plan to be certain of your line of retreat before entering any burning building. Of course, when life is at stake any good fireman will break the unwritten rules that govern his own safety, but it is always well to have a clear mental picture of the point you are trying to reach before entering a smoke filled location. A few moments spent in sizing up the property and noting the location of doors and windows may be important. The writer recalls one occasion when assigned to open up windows in a building above a very hot cellar fire. Instructed not to break the windows he found that a part of the windows had storm sash screwed into place that could not be opened without breakage. A proper appraisal of the situation before entering the building would have prevented a needless dose of smoke as the double windows could have been noted and avoided.

Quite frequently as you are trying to push a hose line up a stairway the heat and smoke is backing down with such intensity that it appears impossible to make your objective. By taking turns at the pipe you may be able to hold your position but cannot advance further. Suddenly the air clears. Someone has opened a window above, from a ladder. Immediately, you are able to follow up the fire at close range, open walls and ceilings and quickly control any hidden fire. In such a case you personally don't care whether the window was opened with finesse or smashed with the flat of an axe. You got the needed ventilation. However, it is to be remembered that the spectators on the outside did not know about the licking you were taking. If the axeman was able to avoid smashing a window he has helped make friends for the department. If it has been possible to quickly pry the window open with an axe, all that will be necessary will be to replace the lock or a few wood screws.

When entering smoke either to ventilate or to work a hose line it is rather important not to become unduly excited. Too many persons have been taught to be afraid of smoke. They have the idea that with a few whiffs of smoke they are liable to be overcome or that their lungs are likely to be seared. Firemen expect to work in smoke. They realize that occasionally fire fighters do become overcome by an encounter with unexpected gases or fumes, but know that the experienced fire fighter does not have a morbid fear of the smoke from ordinary combustibles such as will be encountered many times during his fire-fighting career. It is true that no fireman wants to encounter such materials as nitro-cellulose fumes or ammonia fumes but he usually knows when such materials are likely to be present, and the antidotes and first aid measures to be used in such cases.

A few new volunteer firemen have been so frightened by their first taste of smoke that they have never become good "smoke-eaters." Had they been working alongside of a veteran who would keep talking with them to give them confidence, no doubt they would have stuck it out and would have gained a realization that they too had the makings of a real fire fighter. When the veteran says: "It's a bit tough but we'll soon have this thing licked," the new man loses his fear. He knows it's part of the game.

It's a cardinal rule in the fire service that when it is necessary for a man to back out because he has had too much smoke he must tell the other members of the crew that he is going so that they will not find themselves alone in a tight spot — as has happened. The others may feel just as used up without wanting to be the first to say so.

Where an entire company is working together the man in charge of the hose crew should see that the men are given proper turns at relief. However, in volunteer fire companies it often happens that two or three men will be working a line before a company officer shows up and before effective ventilation can be provided. In such cases they should stick together or back the line out.

A good fireman seeks to avoid being overcome by smoke because he knows that a man who is overcome is only a liability. Others must divert their attention from fire fighting operations to take care of him. When a man feels that he has really had all the smoke that he can stand he should let it be known that he needs a "spell" of relief. Care must be taken in leaving very smoky areas because persons frequently are not overcome until they strike the oxygen of the outside air and then they may drop suddenly and become injured. This is an important point to remember when aiding civilians from a smoke-filled building. They may appear quite rational and able to take care of themselves, only to drop when they reach the outside air at a window or fire escape.

Sometimes at smoky fires where a number of lines are in use, an entire hose crew will be ordered to shut down their pipe and go outside for a "spell of air." In such cases the line should be left in a secure manner and in a place where it is not in danger of being burned should the fire flare up.

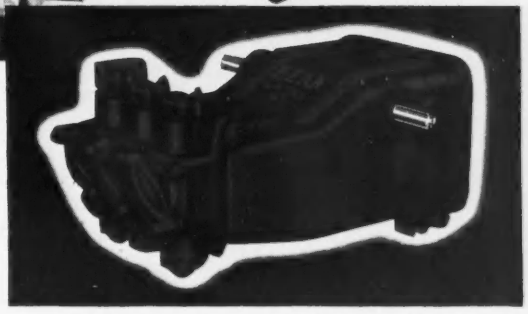
Progressive fire chiefs realize that it may be a sign of poor leadership to have a row of unconscious firemen stretched out on the sidewalks receiving first aid, as was so common in the earlier days of fire fighting. It may indicate that such men have not been provided with adequate relief or should have used suitable mask equipment (see VOLUNTEER FIREMEN for March 1943). Large numbers of men overcome may also indicate that proper ventilation was not accomplished. This is not to say that firemen will not be overcome by smoke but that needless "punishment" of the men from smoke is to be avoided.

A lot of fire fighters make it a practice to keep up an undertone of chatter or talk when working in smoke. Thus the next fellow will know that you are all right, and you will likewise know that he is not "fading out." Such talk helps give confidence. If a man can't talk get him outside. Doctors know that as long as a person going under anesthesia is able to keep counting aloud he is not unconscious. The same thing is true of men working in smoke.

(*Continued on Page 18*)

IN FIGHTING FIRE WITH FOG . . IT'S THE PRESSURE AND THE PUMP!

YOU MUST HAVE **800** LBS. AT THE PUMP



FMC FOG FIRE GUNS IN ACTION! *Fireman at left is using the straight fog stream. Fireman at right has moved in close and has adjusted trigger control to secure the full fog cloud.*

Fight Fires the Surest Way with FMC High-Pressure Fog!

You get the real "blasting," *fire-fighting fog* with the FMC High-Pressure Fog Fire Fighter.

Here's why! The FMC High-Pressure Pump *delivers* and *maintains* 800 lbs. pump pressure—more than 600 lbs. nozzle pressure.

This high pressure gives greater protection and makes it possible for the fireman to get in close and to *smother the flame with a blanket of fog.* The finely-atomized water is "blasted" right into the source of the fire.

The result? The blazing material quickly *cools*—the temperature drops below the combustion point.

Furthermore — the high-pressure fog quickly turns into steam, causing *little or no water damage.*

Investigate! Get the facts about this new and revolutionary fire-fighting technique. Be ready to modernize just as soon as civilian needs can be met.

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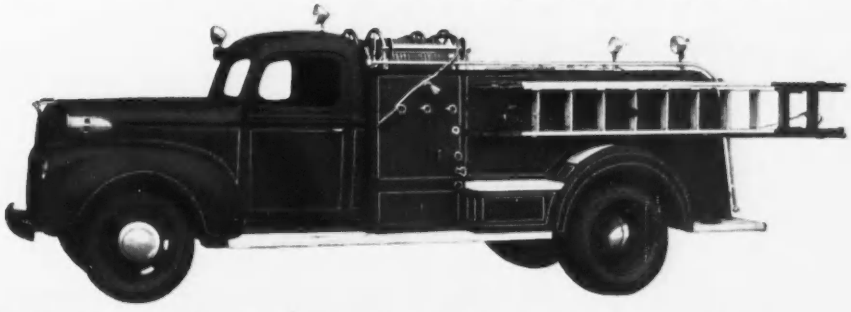
FMC HIGH-PRESSURE PUMP — BUILT ONLY BY BEAN — This is the pump that has revolutionized modern fire-fighting technique.

Note how sturdy and compact it is—how simple yet modern in design! The cylinders are porcelain-lined; the gears are helical cut, and there are latest type bearings on the eccentric shaft and the countershaft. Both the ball valves and their threadless and gasketless tapered seats are of stainless steel. And all working parts are bathed in oil. It has many other endurance features.

No wonder that this FMC High-Pressure Pump is free from mechanical troubles! No wonder that it is able to deliver, without overworking, more than 800 lbs. pump pressure.



Standard FMC Fog Fire Fighter. *A self-contained fire fighting unit. Carries its own water supply and complete fire fighting equipment. Provides two guns of 30 gallons each at 600 lbs. nozzle pressure. Thousands in use by the Armed Forces.*

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BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 50 YEARS

Two student-soldiers lost their lives when trapped on the top floor of this dormitory.

Sprinklers Could Have Prevented Loss of Life in this University Dormitory

TWO student-soldiers lost their lives and another was seriously injured when fire destroyed the north section of Hannibal Hamlin Hall dormitory at the University of Maine. The blaze was discovered at 1:15 A.M. on Sunday morning, February 13th. The four-story brick-walled structure with wood-joisted interior construction was erected in 1911. Designed to accommodate 150 students, the building was entirely occupied by the Army Student Training Program at the time of the fire. This building was without automatic sprinkler protection or automatic fire alarm service.

The dormitory covered an area of about 155 by 40 feet and was divided into three sections by brick fire walls. It is stated that openings in these walls were not protected by fire doors. The interior of the building was sheathed with combustible finish. Floor openings were unprotected. This last fact appears to have been in a large measure responsible for the rapid spread of the fire. Persons early on the scene saw flames shooting up the stair shaft of the north wing and mushrooming on the top floor where the loss of life occurred.

The Building Exits Code of the National Fire Protection Association calls for the enclosure of all stairways and other vertical openings in schools, dormitories, and similar structures. Adherence to the provisions of this life safety code would prevent many such fatalities.

A newer dormitory of fire resistive construction connected with the building at the south was not involved in the fire.

Persons witnessing the blaze are said to have been amazed at the rapidity with which the fire spread. A watchman made rounds in the building at 12:30 A.M. and saw no signs of fire. A snow plow driver who passed the building at 12:45 A.M. noticed nothing unusual. When student-soldiers discovered the fire at 1:15 A.M. it appears to have been well advanced. Several top floor occupants were cut off by smoke and flame. One man was saved by grasping the end of a blanket swung toward him from a window by occupants of a room in the central section of the building on the other side of a fire wall. This man was pulled to safety but his roommate was overcome and lost.

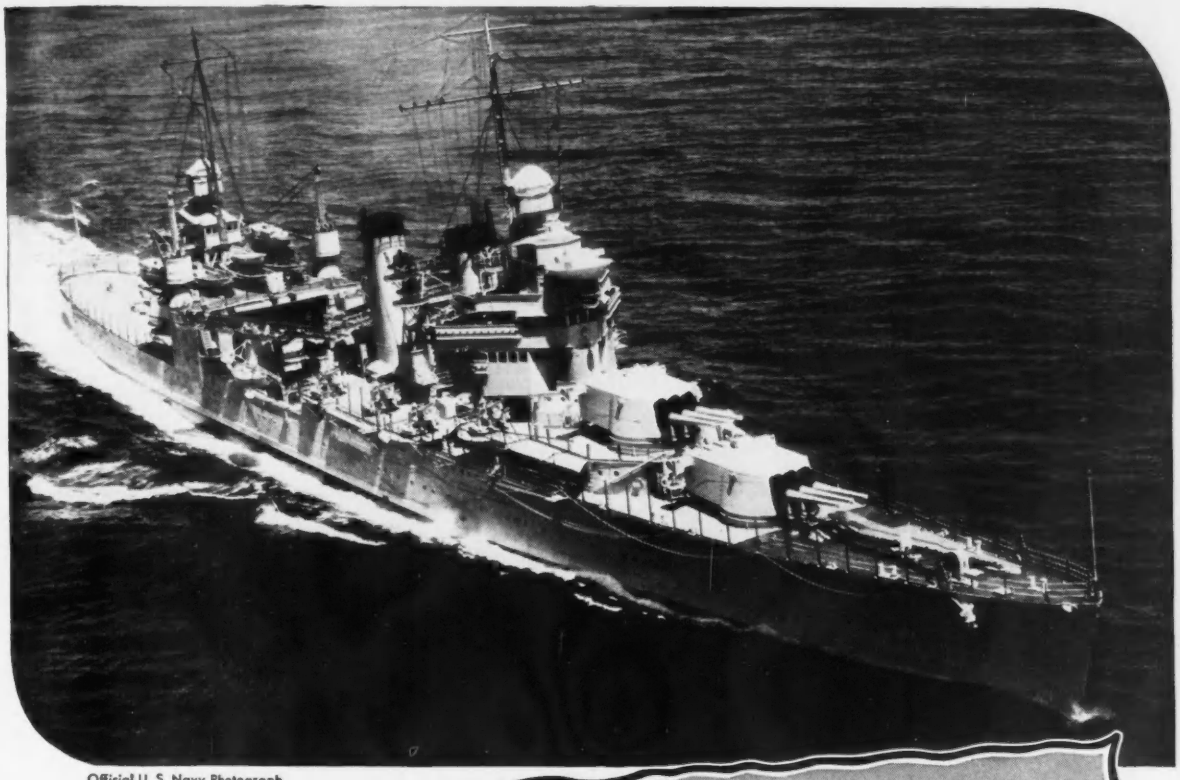
OTHERS escaped by jumping from windows or by descending an outside fire escapes on the north and east walls. Such fire escapes are not generally recommended in the N.F.P.A. Building Exits Code as they are usually an admission that interior exit facilities are inadequate. Enclosed stairways or smokeproof tower stairways are preferred.

There was admittedly a considerable lapse of time before a call was sent to the town fire department at Orono, Maine. The dormitory is approximately a mile from the fire station where a permanent driver and several bunkmen were on duty to man a pumper, ladder truck, and other pieces of apparatus. The town and the University are without a fire alarm box system, but had a telephone call been sent in promptly the ladder truck presumably could have been on the scene in a very few minutes to aid in the rescue work.

The University's own fire squad and equipment was first on the scene. The Oldtown Fire Department also sent a pumper. The fire entered the central section of the building at several points but was held in check by firemen who were substantially aided by the brick fire wall. There were two hydrants nearby on a 6-inch main. Seven hose streams were used.

A review of the performance record of automatic sprinkler systems in college buildings having this form of fire protection shows that out of 34 fires in which automatic sprinklers operated, the sprinklers either extinguished the fire or held it in check in 33 cases. This efficiency record of 97.1 per cent for this class of property makes it reasonable to assume that sprinkler protection could have prevented this loss of life. The only college fire in N.F.P.A. records not controlled by sprinklers, occurred when lightning struck an unsprinklered cupola which collapsed into the roof structure spreading the fire beyond control.

Firemen used hose stream to stop fire at fire wall.



Official U. S. Navy Photograph.

"GHOST" SHIP RETURNS *to Fight Again*

Entirely false were the Jap claims that the USS Minneapolis was sunk in a Pacific sea battle.

The facts are — after the engagement in which the USS Minneapolis accounted for three Jap ships, flames enveloped her bow from waterline to super-structure, other serious damages were caused by torpedoes and shells from enemy warships. The fire was quickly extinguished by the ship's efficient fire equipment. Damages were promptly repaired and she rejoined her fleet — a completely restored "ghost" with renewed fighting punch, ready again to seek and destroy the enemy.

National Foam Fire Fighting Equipment has been adopted and is serving extensively aboard U. S. Navy ships where it has proved its efficiency in extinguishing fires — saving valuable lives and ships.

National Fire Foams are providing fire protection for most oil refineries and many other important industries.

BACK THE ATTACK
BUY WAR BONDS

IN FIRE DEPARTMENT SERVICE

National Foam System has equipment especially designed for the use of Fire Departments to meet all types of fire fighting requirements. Complete engineering service available.

The experience of our engineering department is at your service.

NATIONAL FOAM SYSTEM, INC.

Specializing in Foam Fire Protection

Packard Building, Philadelphia 2, Pa.

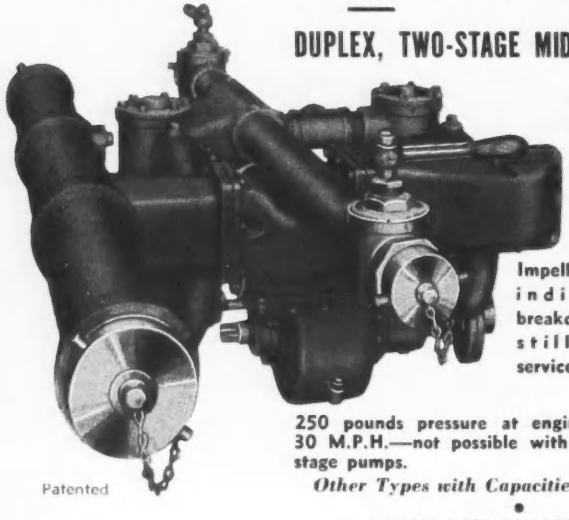
Barton-American Front Mounted

AMERICAN-MARSH PUMPS

Barton-American Midship

FIRE APPARATUS
CENTRIFUGAL PUMPS

DUPLEX, TWO-STAGE MIDSHIP MOUNTED



Patented

High Pressure performance entirely unaffected when unit used to pump gritty water.

•

Impellers mounted on individual shafts—breakdown of one pump still leaves one for service.

•

250 pounds pressure at engine speed equal to 30 M.P.H.—not possible with conventional two-stage pumps.

Other Types with Capacities to 750 G.P.M.

•

WRITE FOR BULLETIN 8731F

•

AMERICAN-MARSH PUMPS, INC., Battle Creek, Michigan

Pumps — and pumps only — since 1873

CIRCUL-AIR THE AIR CONDITIONING FIRE HOSE DRYERS

Do A Better Job

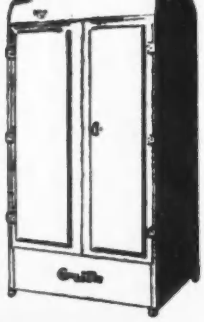
in 1/10 the TIME • ¼ the SPACE • with ½ the Work — *or less*

Save Building and Repair Costs and
Improve New Station Design
A PEACETIME ASSET — A WARTIME NECESSITY

Immediate Delivery — From Stock

USED EXTENSIVELY BY:

Navy Yards, Army, Navy and Marine Air Stations (app. 100) • Chemical Warfare • Arsenals • Ordnance plants • Shipyards • Bell Aircraft • Glenn Martin • Vought-Sikorsky • Consolidated-Vultee • Pratt & Whitney (2) • Eastern-Aircraft • Bendix • Ford (2) • Buick • Packard • Chevrolet • Cons. Steel • B. F. Goodrich (5) • General Electric • Caterpillar Tractor • Detroit Diesel • Dodge • Tennessee Eastman • Inland Mfg. • Fisher Cleveland Aircraft and *many, many others.*



And over 125 Cities,
Villages and Townships

THE CIRCUL-AIR CORPORATION
6339 East Palmer ··· Detroit 11 Mich.

Working in Smoke

(Continued from Page 14)

It is also true that at times one man may take smoke better than another man, depending upon his condition at that moment; including the state of his stomach. Because a man does not take smoke well at one fire does not mean that he is not a good fireman. Many of us have seen "Smoky Joes" with years of experience at fighting stifling cellar and attic fires, suddenly rush for fresh air while other men keep right at the job at hand.

Often fire officers are heard to say, "So-and-so is the best fireman in my company. He always has the pipe." We cannot say whether or not the man in question *is* the best fireman, but he has at least learned that when the smoke is heavy it is a lot more comfortable working near the pipe than is the job of backing up the pipeman. If you can get your nose down to the nozzle and cut the stream slightly with the side of the hand, it is possible to get a cooling spray and possibly there will be a little more air to breath. Some fire fighters have noticed that the stream draws in a current of air toward the pipe. It is stated that men wearing smoke masks can use a spray nozzle to assist in ventilation by directing the stream out a window thus setting up a current that will carry out the smoke. The oldtimer's reason for directing a stream out of the window was to let the outside fire fighters and "white hats" know that they had attended a fire.

There has probably been enough written in the past on the importance of keeping down near the floor when working in smoke. It is well known that heat rises and that any room or enclosure is warmest near the ceiling. Men who are fortunate enough to be able to keep down behind a playpipe should have respect for the laddermen who must stand up and take the heat and smoke while doing duty with axe and plaster hook. One five-alarm fire comes to mind where after several hours with our nose behind a playpipe we were ordered to pull ceilings in a hot and smoky location. The ceilings were of composition board and were very wet. The "rake" (*i.e.*, plaster hook) would go through making only a small hole without accomplishing its purpose. The licking we took convinced us that the man at the pipe has a much softer job.

•

Fire Waste Contest Winners Announced

LAST month the cities winning the Inter Chamber Fire Waste Contest for 1943 were announced. This contest is conducted each year by the National Fire Waste Council in co-operation with the United States Chamber of Commerce. The contest consists of reports of year-round fire prevention activity as reported by local chambers of commerce. The winners were:

Class I. Over 500,000 population, Cincinnati, Ohio
Class II. 250,000–500,000 population, Indianapolis, Ind.
Class III. 100,000–250,000 population, Hartford, Conn.
Class IV. 50,000–100,000 population, Pittsfield, Mass.
Class VI. 20,000– 50,000 population, Parkersburg, W. Va.

The grand award winner for the year was Hartford, Conn.

New Kensington, Pa. Firemen Honored

CIVIC and business leaders were among 100 persons who paid tribute to Fire Chief Edward Clawson and fireman John Pishnick, of the New Kensington, Pa., Fire Department (member N.F.P.A.) on completion of 25 years of service. Among the speakers paying tribute to the men was District Superintendent R. M. Ferry, of the Aluminum Company of America, who declared: "I never fully realized the kind of a fire department we have until I saw firemen rescue nearly thirty persons from the flaming Y.M.C.A. building last December." Firemen saved the lives of draft board members, several doctors, and a class of inductees being examined when flames trapped them on the upper floor.

Among the well wishers were thirty other 25-year men. Pres. Frank Bordonaro served as master of ceremonies. Rev. R. V. Hartman, Department chaplain made the presentations. As a climax a solid gold chief's badge, set with his birthstone, was presented to Mr. Clawson.

The Chief has inaugurated many modernizations in the 22 years he has been head of the department. A former aluminum worker, he has used the light metal for truck bodies built in the department's shop, for ladders, and appliances. He developed a take-off tip with which four booster lines are taken from a single 2½-inch line.

Our Readers Say—

"On page 19 of the February, 1944, issue of VOLUNTEER FIREMEN there appeared an interesting article by Thomas Gerity, of Cleveland, Ohio, pertaining to emergency numbers on dial telephones.

"Our department here in the University of Illinois has used such circular dial emergency cards for a number of years and would like you to know that we are heartily in agreement with Mr. Gerity's article.

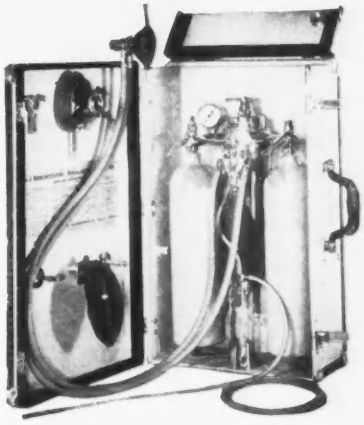
"We the members of the University Department appreciate your magazine and will be watching for more articles like Mr. Gerity's.

"PAUL D. LYTLE, *Assistant Chief*,
"University Fire Department."

E & J RESUSCITATORS BUILT TO SAVE LIVES

★

These modern automatic breathing machines are also built to stand up under years of the kind of service required by Fire Departments.



★

SUPERIOR QUALITY THROUGHOUT

When you inspect the interior mechanism of an E & J Resuscitator you will know why they have such a long record of dependable and successful performance in saving lives. This close study of an apparatus upon which so much depends will demonstrate why E & J Resuscitators are the accepted standard of quality, precision workmanship and effectiveness in mechanical artificial respiration.

YOUR RESCUE SERVICE IS NOT COMPLETE WITHOUT MECHANICAL RESUSCITATION—AND THIS MEANS "E & J" IF YOU WANT THE BEST

E & J MANUFACTURING CO.

GLENDALE, CALIFORNIA

Drexel Bldg. Philadelphia — **17 East 42nd St. New York City** — **530 Fernando St. Pittsburgh** — **581 Boylston St. Boston**

4448 W. Washington Chicago — **3032 W. 25th Ave. Denver** — **3900 Grandy Ave. Detroit**

Pioneers and Specialists in Mechanical Artificial Respiration

Airplane Crash Fire Fighting

As announced briefly last month in Volunteer Firemen, the N.F.P.A. has now published the proceedings of the Conference on Airplane Crash Fire Fighting held jointly by the N.F.P.A. and the U. S. Army Air Forces at Memphis Fire Department Headquarters, Memphis, Tenn., last January.

Among the points brought out in the printed discussion, is the importance of having fire departments know something about how to get in and out of airplanes for fire fighting and rescue operations, and something about the terminology of aircraft construction. It is also desirable to know where airplane crash fires are most likely to occur in relationship to your own community so that access roads for fire fighting and emergency crews can be planned in advance.

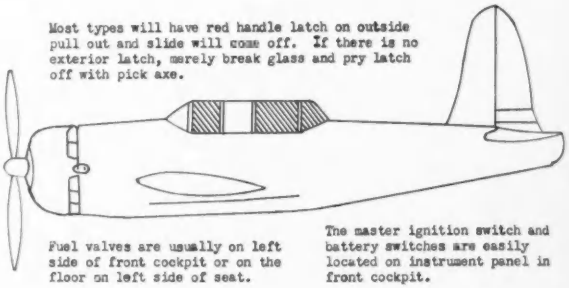
Other subjects of interest in the published proceedings are the advantages and possible disadvantages of using asbestos suits in airplane crash fire fighting, and the use of "fog" or spray nozzles.

In view of the fact that there is scarcely a fire department in the United States or in Canada that is not likely to be called upon at some time for a job of airplane crash fire fighting and rescue work, every fire department must seek to be well informed on this subject. Possibly, more than in any other fire fighting operation, time is the essential element. It is too late to learn how the various doors and hatches of a plane operate after you are called to a crash. Yet this knowledge may be of vital importance in rescue operations.

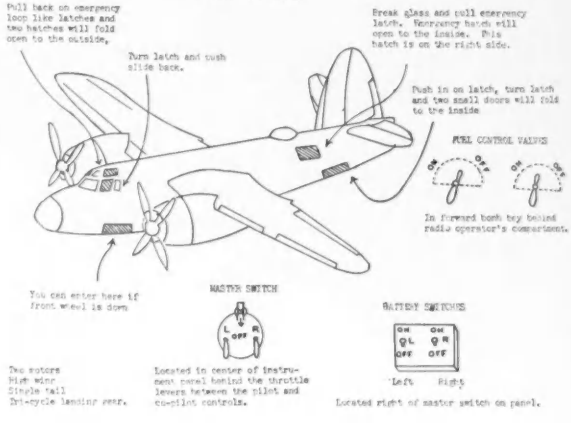
One of the most valuable features of these proceedings are the appendix containing more than a dozen drawings illustrating how to enter and fight fire in various types of Army planes. These drawings are taken from training material used in the Army Service Forces, Headquarters, Engineer Fire Fighting School, Camp Pontchartrain, La. The illustrations are used with official permission. A few typical illustrations are reproduced on this page.

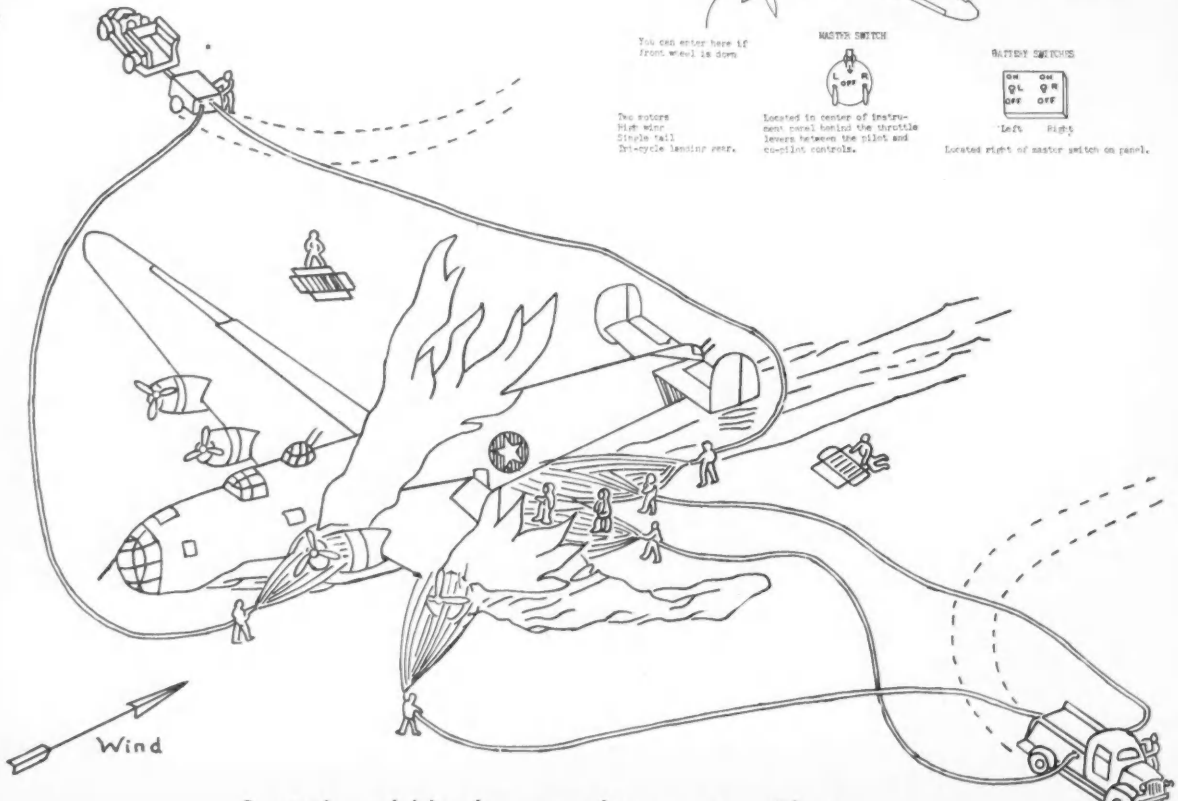
Single copies of these proceedings have been made available without charge to all N.F.P.A. member fire departments. Additional copies are available from the N.F.P.A. at 25 cents each. This is an item that each individual fireman will find valuable for personal reference. A plane may crash and burn near his own home or place of work and a knowledge of crash fire-fighting techniques may mean the difference between life and death.

All Single Seat Airplanes


Most types will have red handle latch on outside pull out and slide will come off. If there is no exterior latch, merely break glass and pry latch off with pick axe.
Fuel valves are usually on left side of front cockpit or on the floor on left side of seat.
The master ignition switch and battery switches are easily located on instrument panel in front cockpit.

B-26 Models


Pull back on emergency loop like latches and two hatches will fold open to the outside.
Turn latch and push slide back.
Break glass and pull emergency latch. Emergency hatch will open to the inside. This hatch is on the right side.
Push in on latch, turn latch and two small doors will fold to the inside
FUEL CONTROL VALVES
In forward bomb bay behind radio operator's compartment.
You can enter here if front wheel is down
MASTER SWITCH
BATTERY SWITCHES
Two motors
Mid wing
Single tail
Tri-cycle landing gear.
Located in center of instrument panel behind the throttle levers between the pilot and co-pilot controls.
Left
Right
Located right of master switch on panel.



Crash with two motors on fire

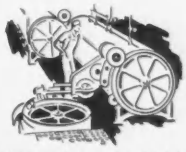
"Water Buffalos" *are rough on rats!*

Big, tough, deadly . . . "Water Buffalos," the amazing new war vehicles military experts have called "the answer to the Pacific warfare!" Heavily armed and armored amphibious tanks, "Water Buffalos" swim through the sea, climb over coral reefs and charge up on the beach . . . ride over barbed wire, barricades and pillboxes, spraying death as they go. It can now be told that the Army, Navy and Marines used these "Water Buffalos" in great numbers in many amphibious operations in the South Pacific area.

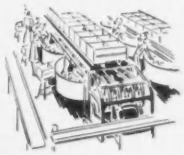
These "Water Buffalos" were designed,* engineered and manufactured by Food Machinery Corporation. The extraordinary "know how" required to produce them was developed through 59 years of building equipment. This same creative ability is on the job today, planning many improved equipment items for America's great food industries.

**In cooperation with Bureau of Ships, U. S. Navy.*

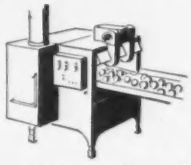
FMC Divisions *and Typical Products*



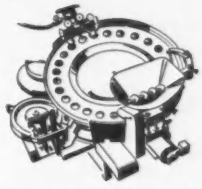
Anderson-Barngrover Division... Complete line of machinery for canning foods. San Jose, Calif.



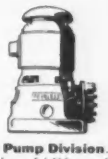
Florida Division . . . Citrus and Vegetable Packing Equipment, and Food Protective Processes. Dunedin and Lakeland, Florida.



Texas Division . . . Protective Processes, Canning Machinery, Fruit and Vegetable Packing Equipment. Harlingen, Texas.



Sprague-Sells Division . . . Complete line of machinery for canning foods. Hoopeston, Illinois.



Peerless Pump Division . . . Deep well turbines, hi-lifts and pumps handling water for every purpose. Los Angeles and Fresno, California, and Canton, Ohio.

FOOD MACHINERY CORPORATION

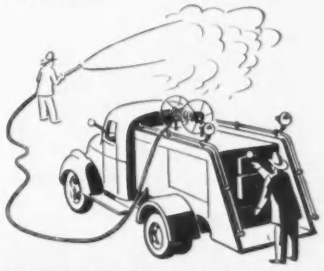
LAKELAND AND RIVERSIDE

EXECUTIVE OFFICES: SAN JOSE, CALIFORNIA

Riverside Division... Citrus Packing Equipment, Automatic Box Making and Lidding Machinery, Fruit and Vegetable Protective Processes. Riverside, Calif.

Bean-Cutler Division. Sprayers, Dusters and Packing House Equipment for Fruits & Vegetables, Fog Fire Fighters, Turbine Pumps. San Jose, California.

Niagara Sprayer & Chemical Co. . . . Insecticides for protecting crops from insects and disease. Middleport, N. Y., Jacksonville, Fla., and Burlington, Ont., Can.

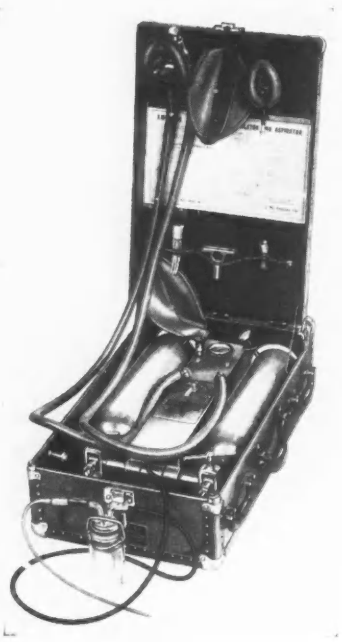


JOHN BEAN MFG. CO....Fog Fire Fighters, Bean Royal Spray Pumps, Automotive Service Station Equipment. Lansing, Michigan.

WHEN LIFE IS AT STAKE

you can afford only the best in

RESUSCITATION



EMERSON RESUSCITATOR

has through actual experience in leading fire departments won that position. Let us demonstrate this fact at your next department meeting.

•

J. H. EMERSON CO.
24 Cottage Park Ave.,
Cambridge, Mass.
Representatives in Principal Cities

MEMBERSHIP REPORT

N. F. P. A. Volunteer Firemen's Section

LAST month sixteen new companies with 167 men joined the Volunteer Firemen's Section. The total number of companies enrolled in the section now stands at 1,065. This is the first time in fifteen months that the number of companies has decreased. The high mark was last month when 1,067 fire companies and fire brigades were enrolled.

Many volunteer fire departments have been very hard hit by the draft and have trouble in keeping their organizations intact. We urge member departments to keep us informed regarding changes in the addresses of their members, or in the event that mailings of N.F.P.A. publications are not promptly received.

There have been some cases where a volunteer fireman in the service, who has been receiving the magazine at some military post, has been shipped out without opportunity to notify the N.F.P.A. of change of address. The magazine is returned here and frequently there is no indication as to what department the man was originally from. In cases of men going into service the fire department secretary might be designated to receive the magazine and see that it reaches the man, or some other person might be designated to get the magazine. Because of frequent changes of address, several fire departments have all of their copies of VOLUNTEER FIREMEN sent to the departmental secretary or chief for distribution.

IT is important not to let N.F.P.A. membership lapse in wartime. All over the United States and Canada fire losses are shooting up to the highest figures in more than a decade. We cannot afford to let fire protection break down on the home front. Up to the minute fire protection information received through N.F.P.A. membership is of added value under present conditions.

New members are listed below:

Cartersville Fire Department, Cartersville, Ga.
LaGrange Park Fire Department, LaGrange Park, Ill.
Coffeyville Fire Department, Coffeyville, Kan.
Parsons Fire Department, Parsons, Kan.
Cumberland Fire Department, Cumberland Center, Me.
Nashwauk Volunteer Fire Department, Nashwauk, Minn.
Red Lake Falls Fire Department, Red Lake Falls, Minn.
Fitzwilliam Depot Fire Co., Fitzwilliam, N. H.
Martinsville Engine Co. No. 1, Martinsville, N. J.
Morris Township Fire Department, Morris Plains, N. J.
Industrial Rayon Corporation, Cleveland, Ohio
Norman Fire Department, Norman, Okla.
Upper Burrell Township Volunteer Fire Company No. 1, New Kensington, Pa.
Fiskeville Fire Company No. 1, Incorporated, Fiskeville, R. I.
Yawgood Fire Department, C. L. Armstrong, Rockville, R. I.
Bayside Volunteer Fire Company, Warwick, R. I.

MEMBERSHIP PLAN

- Through the Volunteer Firemen's Section, fire companies may become N.F.P.A. members. Each member fire company is entitled to have VOLUNTEER FIREMEN magazine sent to the homes of ten firemen.
- As a member, the fire company receives at headquarters a set of all other regular N.F.P.A. publications. This includes the QUARTERLY MAGAZINE and monthly NEWS LETTER.
- Membership in the National Fire Protection Association costs ten dollars per year. If more than ten firemen want to receive the magazine, an additional one dollar should be sent for each additional fireman enrolled.

"Mamma!"

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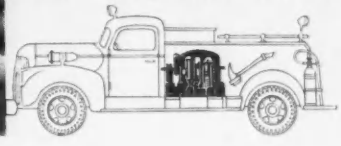
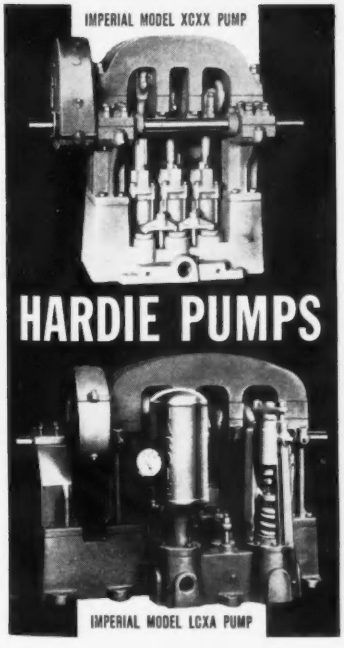
THE HEART
OF YOUR FOG FIRE FIGHTER
IS A PUMP

Specify a

HARDIE



Crash Fog Fire Trucks built for Pan American Airways System by Edgar Road Tank Works, Linden, N. J., are equipped with the Hardie Imperial XCXX High Pressure Pump.



● Leading manufacturers of Fog Fire Fighters equip their units with Hardie High Pressure Pumps because exclusive Hardie time-tested features of pump design, construction and performance bring specific valuable advantages.

The Hardie pump is a powerful, vertical crankshaft-driven pump which delivers maximum volume and pressure easily at slow speed (130 RPM), giving nozzle pressure of 500 to 800 P.S.I. This assures perfect atomization of the water, dependability under all conditions of use, and long, sustained periods of highest pressure operation without excessive wear or break-down hazard.

The Hardie is the only such pump that provides complete lubrication for every moving part, including the porcelain-lined cylinder walls, plunger guide, plunger and plunger cups. For more than 40 years, Hardie pumps have proved their superiority in all fields of high pressure operation.

When you buy a Fog Fire Fighter, specify a Hardie Pump.

THE HARDIE MFG. COMPANY

Hudson, Michigan **Los Angeles, Calif.** **Portland, Oregon**

Perfected Fog Fire Gun

● The Hardie Fog Fire Gun is perfectly balanced, very convenient and easy to handle. Opens and closes instantly. Readily adjustable from wide close-up drenching fog spray to long distance stream. Strongly built to deliver nozzle pressure of 500 to 1000 P.S.I.

★H★A★R★D★I★E

High Pressure **PUMPS AND FOG GUNS**

for Fog Fire Fighters

FEDERAL SIRENS

- Choose a warning signal that will assure maximum protection—choose a FEDERAL Siren.
- The FEDERAL tone is powerful—distinctive—unmistakable. Available in coaster, doubletone coaster, and long roll.
- FEDERAL also offers sirens with flashing red light, or with an oscillating light that sweeps from side to side.
- Every FEDERAL Siren is strongly built to give long unfailing service under all emergency conditions.
- Back of every FEDERAL Siren are 40 years of scientific research and skillful engineering.
- Protect your valuable equipment with the finest and most efficient warning signal—a FEDERAL Siren.

WRITE FOR BULLETIN

FEDERAL ELECTRIC CO., INC.

SIREN HEADQUARTERS

8717 So. State Street — Chicago 19, Illinois

MIDWESTERN

Canvas or Rubber Type

FIREMEN'S COAT

Illustrated at right is Midwestern's No. 101 Fireman's coat, which is highly serviceable and popular in both Volunteer Departments and the larger municipal departments throughout the country. Flexible elastic inner sleeve for wrist to keep out water, cold and sparks; adjustable collar strap, detachable wool lining, Midwestern Safety snaps, two outside pockets, 6-inch storm flap and many other fine Midwestern qualities. See your local Midwestern distributor for prices and literature, or write the factory.

MIDWESTERN MFG. CO.

MACKINAW, ILLINOIS

Oldest Active Volunteer

Chief Joseph W. Hall

JOSEPH W. HALL, Chief of the Clarks Summit Fire Company, Clarks Summit, Pennsylvania, has been an active volunteer fireman for seventy-three (73) years. Chief Hall was born on July 1, 1858. In 1871 he joined the Franklin Junior Fire Company of Scranton, Pa.

"'Uncle Joe,' as he is affectionately known, was a member of the Franklin Juniors until 1876. From May 23, 1876 until 1912 he was a member of the regular Franklin Fire Company and was assistant chief of the Scranton Volunteer Fire Department for nine (9) years. In 1910 Joe moved to Clarks Summit, and in 1912 he helped organize the Clarks Summit Fire Company No. 1, Inc. He was elected chief at that time and has held that office to date.

"Chief Hall is not a volunteer fireman in name only — he is an active fireman! He responds to all fire alarms and attends all meetings unless he is ill or out of town. He has yet to miss reporting to the firehouse for air-raid tests. He is enthusiastic about all fire prevention activities.

"In May of last year we were called to help the Nicholson Fire Company, which is about twenty miles from Clarks Summit. In order to get to the fire, Joe hitchhiked on a milk truck. The alarm was sounded at 6:50 A.M. and we were there until afternoon when the chief of the Nicholson company gave us permission to leave. The company left but Joe would not come while the fire was still smouldering. About six o'clock that evening Joe came home on a trailer-tractor. Again he had hitch-hiked!

"'Uncle Joe' has helped organize six neighboring volunteer fire companies and five relief associations. He organized the Lackawanna County Federation of Volunteer Firemen, now known as the Northeastern Pennsylvania Volunteer Firemen's Federation which embraces eight counties and of which he is Honorary Chief. He is a member of the Pennsylvania State Firemen's Association and attended the second convention of this organization in 1881. He is also a member of the Six-County Firemen's Association. Chief Hall rarely misses a meeting and attends all of the conventions of these organizations. He has about fifty different convention badges and souvenirs. In addition to scrapbooks, pictures, and other records, Uncle Joe has a fire-diary of which he is justly proud and carries at all times.

"Calvin 'Cal' Hall, son of Joe is captain of the Clarks Summit Fire Company and is following in his dad's footsteps.

"Because of his long and enviable fire-fighting career, we would like to have our beloved chief, Joseph W. Hall recognized as the oldest active volunteer fireman.

"PAUL E. BUNTZ, *Secretary*,
"Clarks Summit Fire Co. No. 1, Inc.,

You are cordially invited to attend the

Fifth Annual Volunteer Firemen's Forum

to be held at the

Benjamin Franklin Hotel

Philadelphia, Pa.

Wednesday, May 10, 1944

2:00 p.m.

In connection with the 48th N.F.P.A. Annual Meeting, May 8–22, we are planning an outstanding program for the Volunteer Firemen's Forum. Highlights will be:

1. Dr. W. A. Ross, of the U. S. Office of Education will talk on current aspects of firemen's training. "Art" Ross has participated in firemen's training programs in almost every part of the United States. No more genial personality and charming speaker is to be found among the friends of the fire service.

2. Fire Marshal George W. Clough will describe the outstanding fire prevention program being carried on by the volunteer fire departments of Nassau County, New York.

3. Herbert A. Friede, Superintendent of Fire Alarms of the District of Columbia is scheduled to talk on the future of the radio in the fire service. No person in the country is better equipped to discuss this problem which will be of major importance to every fire department.

4. Bill Wunderlich, Financial Secretary, Delaware County Firemen's Association, will tell what the volunteer firemen of Delaware County, Pennsylvania, are doing about training and related subjects.

5. George Ernest Robinson, the nation's outstanding specialist on fire station design will discuss some of the problems involved in planning fire stations. Architect Robinson probably has had more experience in designing fire stations both for large and small communities than any other person.

Many other sessions of the N.F.P.A. meeting will be packed with features of interest to firemen and all firemen are welcome. Be sure that your department is represented by as many men as possible. Programs for the complete N.F.P.A. meeting will be mailed to all N.F.P.A. member departments, and will be sent to other interested persons on request to the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

Volunteer or city firemen in uniform or properly identified are not required to pay a registration fee at the meeting.

THIS WAS A FAMOUS FIRE..

Free copy of this Currier & Ives print, suitable for framing, on request. Limited supply. See coupon below.

The Great Fire at Chicago commenced on Sunday evening, October 8, 1871, and swept unchecked for two days. It consumed over 5 sq. miles of the business portion of the city and destroyed public buildings, hotels, newspaper offices, railroad depots and tenement districts. Five hundred lives were lost and damage was estimated at $200,000,000! . . . Watch future issues of this magazine for old prints of other famous fires.

..AND HERE'S A FAMOUS FIRE FIGHTER

4 lb. and 15 lb. sizes

CD/Fog is sudden death to fire. One quick application seals out air, snuffs flame. It's swift, safe, sure. CD/Fog promptly extinguishes oil, gasoline, electrical and chemical fires — operates with full effectiveness in hot or subzero weather. It's harmless and odorless. CD/Fog belongs to a famous family of fire fighters, among them Fire Guard, Alaskan, Floafome. It is quality mass produced for prompt delivery to essential users.

If it's GENERAL DETROIT it's Better

THE GENERAL DETROIT CORP.

Former name the General Fire Truck Corp.

NEW YORK DETROIT CHICAGO

Distributors in all principal cities

West Coast Affiliate: The General Pacific Corp., Seattle, Los Angeles, San Francisco.

HANG THIS ON YOUR WALL

THE GENERAL DETROIT CORP.
2200 East Jefferson Ave., Detroit 7, Michigan

Please rush my free copy of "The Great Fire At Chicago."
Include details on CD/Fog.

Name _____

Title _____

Attach this convenient coupon to your letterhead and mail. (412)

YOU'VE NEVER SEEN SPEED UNTIL YOU'VE SEEN *This* IN ACTION!

● Dangerous fires...especially those involving flammable liquids, gases and electrical equipment...must be knocked out speedily, decisively.

And THEY ARE when the DUGAS Extinguisher with PLUS-FIFTY DUGAS Dry Chemical gets to work!

PLUS-FIFTY DUGAS Dry Chemical strikes the flames...then releases fire-smothering gases...and the fire is out.

Non-toxic, non-corrosive, and non-abrasive, PLUS-FIFTY DUGAS Dry Chemical harms nothing except fire. Get all the facts about PLUS-FIFTY DUGAS Dry Chemical and priority information regarding DUGAS Extinguishers. Write today!

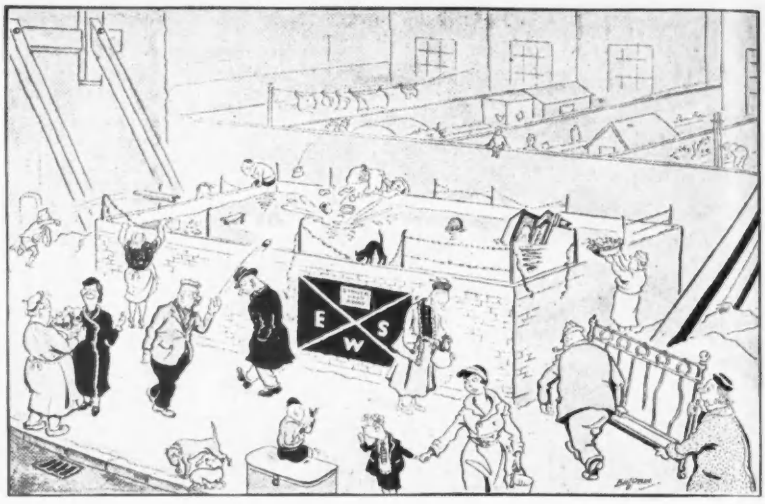
Approved by Underwriters' Laboratories and Factory Mutual Laboratories.

PLUS-FIFTY
duGas
REG U.S PAT OFF
DRY CHEMICAL
U.S. PATENT 1760

SEND FOR FREE CHART... showing characteristics of all types of approved hand fire extinguishers.

MODEL 30-T HAND EXTINGUISHER FE-2-44

DUGAS ENGINEERING CORP.
OWNED AND OPERATED BY
ANSUL CHEMICAL COMPANY, MARINETTE, WISCONSIN



That the problem of maintenance of emergency water tanks, as described in the accompanying article, is no minor matter is brought forth by the above cartoon which appeared in the March 1944 issue of "Fire," official Journal of the British Fire Service. "Fire" points out that large numbers of firefighters "have been, and continue to be, engaged in cleansing emergency water supply tanks. Throughout the 10th (North western) Region 11,500 tons of rubbish were monthly removed from EWS tanks. Consumption of petrol [gasoline], on such work was 2,600 gallons. From two Manchester tanks a dead dog, two gas meters, three iron bedsteads, a bag of cement, two 10 ft. steel girders, a perambulator, a bicycle, an easy chair, a couch and a large quantity of bricks were removed. One tank contained 50 tons of rubbish, and another was filled to within six inches of its brim with scrap — much of it valuable salvage material."

British Wartime Emergency Water Tanks

(Continued from page 9)

Frequent changes of water are unnecessary, but if the Medical Office of Health of the area recommends that a tank should be cleaned, then this should be carried out. Mosquitoes are the principal trouble that may be experienced.

During severe frost all emergency water supplies should be visited daily and the ice broken. [Few parts of England have sustained periods of freezing weather.]

Marking and Lighting

No standard method of indicating E.W.S. supplies has been introduced. Usually boards painted with those letters and an indicating arrow are placed in main streets, and the supply itself also lettered, and banded, sometimes with red and yellow, sometimes with white, and sometimes with a large cross from corner to corner.

In some areas a tablet is added to basin and natural supplies, showing the size of the suction connection if one is provided, and giving any other useful information about the supply. At the foot will be the number of the nearest fire alarm, and by looking up this number in a list of Emergency Water Supplies, further details of the supply and the surrounding water situation will be obtained.

The letters S.W. (static water), S.W.S. (static or supplementary water supplies) or E.W.S., are all generally employed. In addition, it is the usual practice to indicate on the basin or dam the quantity of water it contains, the figures 000 being omitted, and also to paint arrows and figures indicating the direction and distance to the two nearest emergency water supplies, together with their capacities

---

Parts 1, 2 and 3 of the Manual of Firemanship of the British National Fire Service are now available. They may be obtained for 75 cents, for each part, from British Information Services, 30 Rockefeller Plaza, New York, N. Y. They are a useful addition to the library of any fireman or fire company.

●

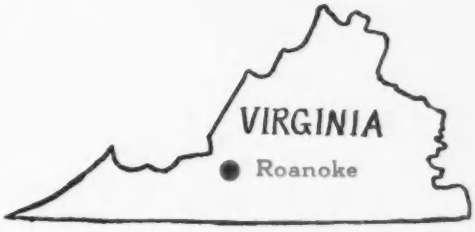
Firemen First-Aiders Save Lives

MEMBERS of the Memphis, Tenn., Fire Department have proved time and again their right to be called Red Cross first-aiders. Here are several stories of lives recently saved. William P. Morton had falled thirty-five feet down an elevator shaft at the Claridge Hotel, fracturing his skull and back. Hotel employees were tying ropes under his armpits prior to hoisting him to the first floor. But Lt. Jesse L. Butcher arrived in time to stop what might have been a fatal method of rescue. Climbing down the shaft, he strapped Morton to a plank, so that without further injury to his spine the man was pulled upward by ropes attached to the board. He recovered.

Again, firemen of Station 17 were first on the scene to administer first aid when two trolleys, crowded with Saturday shoppers and homebound workers, crashed head-on. Thirty injured passengers were taken to a fire station nearby, and while someone called for ambulances the firemen administered first aid, which included the control of bleeding, splinting of fractures, prevention of shock and care of cuts and abrasions.

No doubt many volunteer fire departments could report similar instances.

OREN



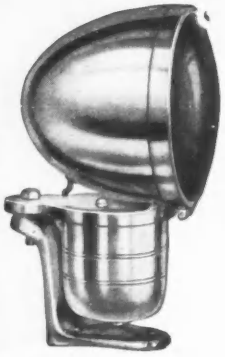
"The South's Only Fire Truck Manufacturer"

A Triple Combination* OREN *built for Franklin Volunteer Fire Dept., Franklin, Va.

★ **OREN builds a complete line of FIRE TRUCKS. Write for information.** ★

OREN FIRE APPARATUS COMPANY
1261-9 WEST SALEM AVENUE
ROANOKE, VIRGINIA

One of 70



Type 06

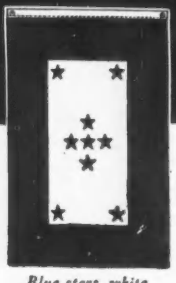
Oscillating Red Beam Sweeps Far Ahead—Clears YOUR Side of Road.

● FAST ● SAFE
● SILENT RUNS

WRITE FOR NEW EMERGENCY LIGHTING BULLETIN NO. 144.

CARPENTER MFG. CO.
"MASTER ★ LIGHT ★ MAKERS"
168 SIDNEY ST.,
CAMBRIDGE 39, MASS.

HONOR YOUR SERVICE MEN



Honor your fellow-firemen now serving with the armed forces, by displaying this official

SERVICE FLAG

Blue stars, white panel, field of red. Send for catalogue.

One star for each one in service. Available in any size or material desired. Send for Free illustrated catalogue and price list today.

Permanent
ROLL of HONOR

A permanent plaque, with individual names in silver on gold-bordered permanent name plates. Beautiful walnut plaque with eagle and victory torches. Write for price list today.

U. S. and Allied Flags in all sizes. Write for prices.

REGALIA MFG. CO.
Dept 82, Rock Island, Ill.

MANUFACTURERS' ANNOUNCEMENTS

A NEW development in the field of first aid fire appliances is the "ALL-OUT" fire extinguisher manufactured by the National Powder Extinguisher Corporation, 50 Rockefeller Plaza, New York City. Both the extinguisher and the extinguishing agent have been tested and approved for use on fires in flammable liquids by the Factory Mutual Laboratories. A non-conductor, the extinguisher may be used safely on fires in live electrical equipment. According to the manufacturer, the

"ALL-OUT" extinguisher ejects a stream of dry chemical which, when activated by heat, forms a dense fire-smothering cloud over the burning area. The insulating qualities of the cloud are said to guard against reflash and create a heat-deflecting screen between the operator and the fire. The chemical is described as harmless to human beings and delicate machinery. The fully charged extinguisher weighs 37 lbs. It may be quickly recharged without special equipment.

●

THE General Detroit Corporation, manufacturers of fire extinguishers and allied apparatus since 1905 is offering a series of prints of famous fires. Mr. F. D. Bacon, General Manager of the Corporation, in co-operation with the Bettman Archive of New York, has selected prints of six of the most interesting fires in history. Attractive reproductions of the prints are offered in 11½" x 14½" sizes, suitable for framing and hanging on the wall. The first of the series, illustrated above, is a reproduction of the Currier & Ives lithograph of "The Great Fire at Chicago" in 1871. Copies may be secured without obligation by writing to the General Detroit Corporation, Dept. 412, 2200 East Jefferson Ave., Detroit 7, Michigan.

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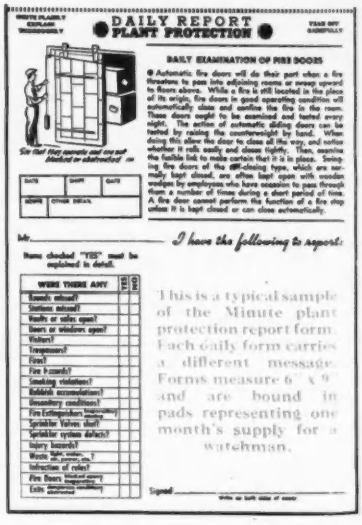
When you write to advertisers, please mention VOLUNTEER FIREMEN



DAILY REPORT
PLANT PROTECTION

DAILY EXAMINATION OF FIRE DOORS

Mr. _____ *I have the following to report:*

Items checked "YES" must be explained in detail.

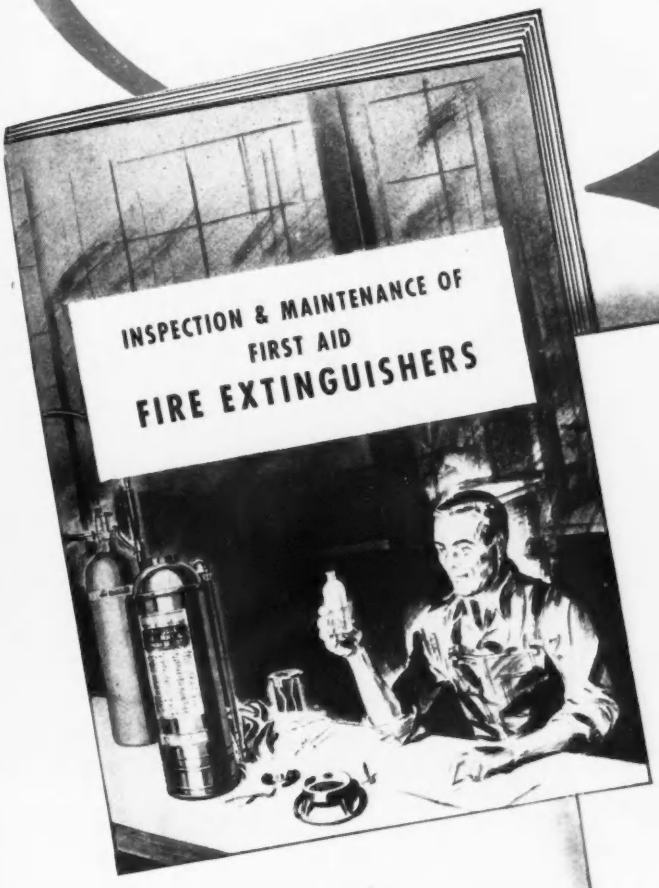
WERE THERE ANY	YES	NO
Sounds missed?		
Stations missed?		
Vaults or safes open?		
Doors or windows open?		
Visitors?		
Trespassers?		
Fires?		
Fire hazards?		
Smoking violations?		
Reduced sprinkler water pressure?		
Incendiary conditions?		
Fire Extinguishers missing?		
Sprinkler Valves shut?		
Sprinkler system defects?		
Injury hazards?		
Waste light water?		
Infraction of rules?		
Fire Doors inoperative?		
Exits obstructed?		

This is a typical sample of the Minute plant protection report form. Each daily form carries a different message. Forms measure 6" x 9" and are bound in pads representing one month's supply for a watchman.

Signed _____

FIRE department personnel, making industrial fire prevention inspections, will be interested in obtaining a free leaflet issued by The Minute Co., Route 2, Riverside Drive, Crystal Lake Ill. This illustrated leaflet gives particulars and samples of a system of watchman's report forms. The daily use of these forms may be expected to improve the efficiency of almost any watchman because they provide not only an instructive printed message giving information of the sort all watchmen should have, but also a check list of plant protection factors. Fire inspectors may wish to suggest forms of this type in appropriate instances.

Let this FREE BOOK help you keep your fire-fighters ready for action!



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- KEEPING RECORDS
- WHAT KIND OF EXTINGUISHERS?
- MARKING LOCATIONS
- MARKING THE EXTINGUISHERS
- INSPECTION OF EXTINGUISHERS
- VAPORIZING LIQUID EXTINGUISHERS
- CARBON DIOXIDE EXTINGUISHERS
- SODA-ACID EXTINGUISHERS
- FOAM EXTINGUISHERS

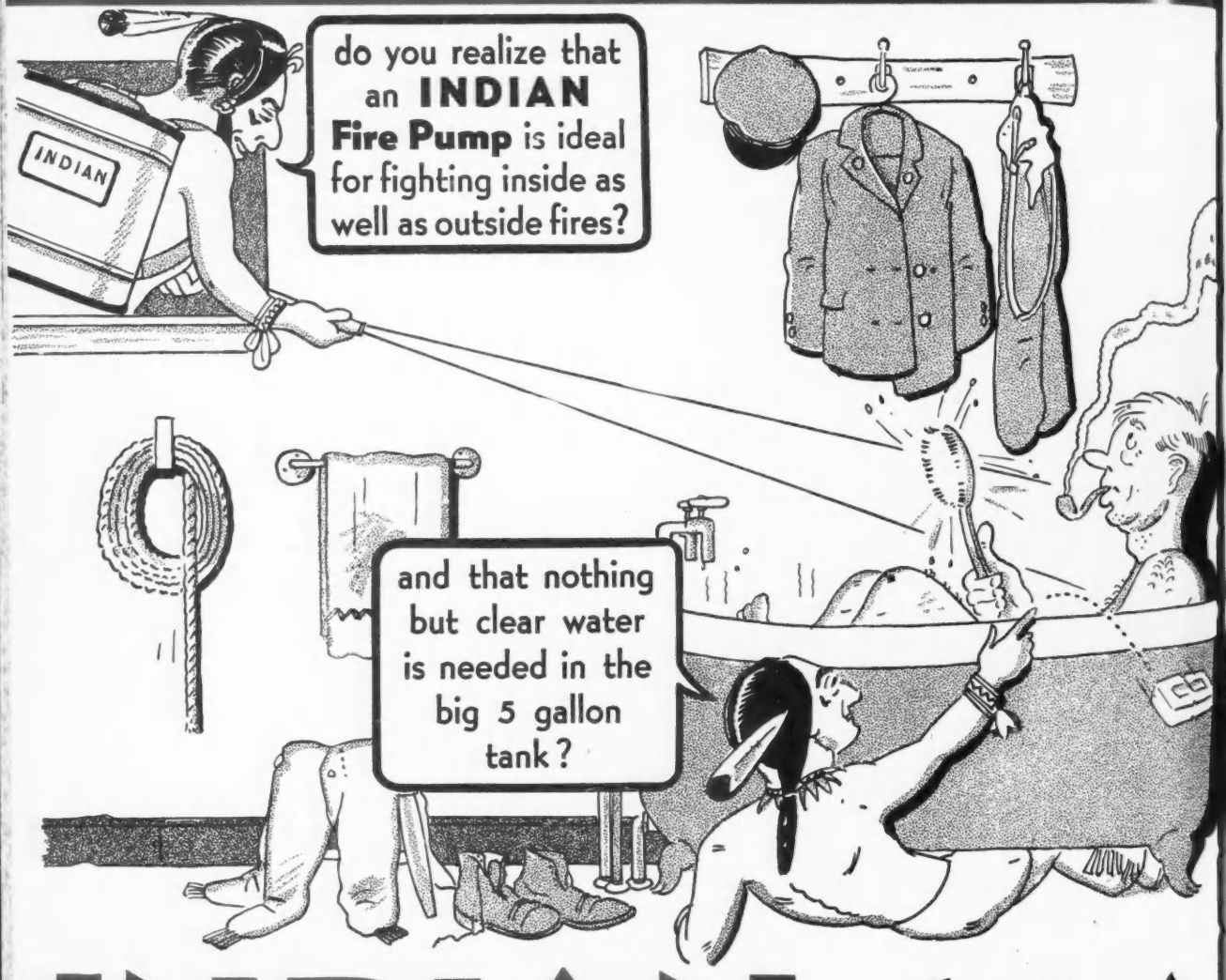
NEGLECT of your extinguishers may leave them damaged, clogged, under-charged — *unprepared* at the critical moment when you need them. Only careful examinations at fixed intervals can insure the full effectiveness of your equipment at all times.

To make it easy for you to organize your own maintenance system, Walter Kidde & Company has issued this booklet. The panel at the right gives some idea of its scope. Take the first step toward better fire protection now — write for your free copy of this booklet!

WALTER KIDDE & COMPANY, INC., 549 MAIN STREET, BELLEVILLE, N. J.

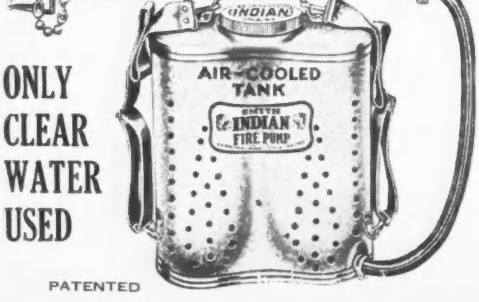
THIS ADVERTISEMENT IS ONE OF A SERIES APPEARING CURRENTLY IN INDUSTRIAL PUBLICATIONS

FIRE 'N PUMP *The "Injun" House Twins* by D. B. SMITH & CO.


INDIAN
do you realize that an INDIAN Fire Pump is ideal for fighting inside as well as outside fires?
and that nothing but clear water is needed in the big 5 gallon tank?

INDIAN *Fire Pumps*

are as efficient for *Inside* as for *Outside* fires



ONLY CLEAR WATER USED

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Send for new descriptive catalog which tells all about **INDIAN FIRE PUMPS** and includes many more testimonials from actual users. Write today!

"An **INDIAN FIRE PUMP** can be put in operation faster than a booster line because of loss of time stretching the booster line plus starting of the booster pump.

The **INDIAN FIRE PUMP** is as efficient inside for the same size fires as it is outside. A large percentage of our fires are extinguished by the **INDIAN FIRE PUMP.**"

J. N. SULLIVAN,
Commissioner,
Dept. of Public Safety.

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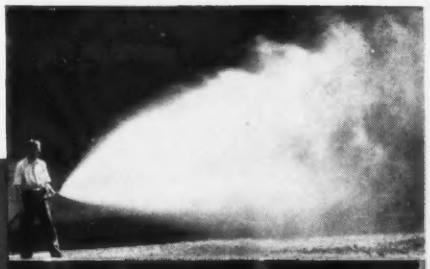
WaterFOG puts out fires IN OIL



Because Turning WATER

into the tiniest DROPLETS

MAKES THE MIGHTIEST FIRE FIGHTERS

The smaller a water droplet is, the quicker it will absorb heat from fire.

That's why WaterFOG makes water effective on oil fires. Its water particles are so tiny — having many times greater surface area than an equal amount of water in spray or stream form — that they cool the fire faster.

Also, being lighter, WaterFOG floats in the combustion area, picking up its full complement of heat from the burning vapors and from the liquid's surface. Then, as it changes to steam, it expands, casting a smothering blanket over the fire.

The fire is quenched . . . vaporization is retarded . . . oxygen is kept out. Yet there is no agitating of the liquid, no spreading of the fire. "Flash-back" is prevented, and with smaller quantities used, water damage is restricted. Write for Bulletin 123.

WaterFOG is created by specially-designed Rockwood heads and nozzles, in which impinging streams break water up into FOG. Rockwood engineers will develop the proper particle size, fog pattern and velocity for your conditions. Available in the form of fixed piping installations, hose nozzles and applicators.

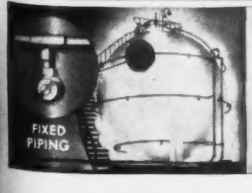
Approved by Underwriters' Laboratories and Associated Factory Mutuals — used by Navy, Coast Guard, U. S. Maritime Commission, hundreds of industrial plants.

Executives! A color movie (16 mm.) showing tests of Rockwood WaterFOG is available.

ROCKWOOD SPRINKLER COMPANY
88 Harlow Street, Worcester 5, Mass.
Specialists in Fire Protection Engineering, Equipment and Installation since 1907

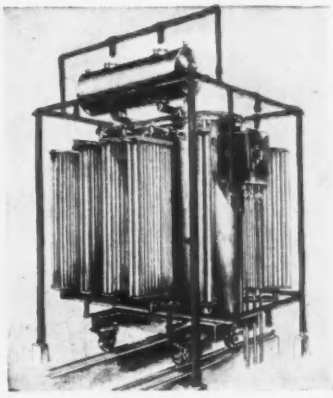
ROCKWOOD WaterFOG

Water Engineered by Rockwood Cools, Confines, Smothers Oil Fires



WaterFOG INSTALLATIONS DOOM ELECTRICAL FIRES!

Full protection against flammable liquid fires is obtained when a WaterFOG system of fixed piping, heads, valves and automatic controls is planned and installed by Rockwood WaterFOG engineers (authorities on hydraulics, as applied to fire protection). Spacing of heads, obstructions, distance between heads and hazard, etc. are important in determining correct particle size, fog pattern and velocity.



Typical installation of Rockwood WaterFOG on transformer. WaterFOG is safe to use on electrical fires!

Typical WaterFOG Applications

- quench and dip tanks
- paint shops
- control rooms
- oil switches
- dryers
- oil storage

etc.

WaterFOG Nozzles for Hose Lines

Rockwood N22 nozzle, attached to ordinary hose lines or used as a tip on play-pipes, converts water into WaterFOG, discharging a large WaterFOG pattern with considerable forward projection. Since the WaterFOG has a very low degree of conductivity, it is safe for fighting fires in oil-filled electrical equipment. Available in 1", 1½" and 2½" sizes.

Rockwood N22 Nozzle

Write for Bulletin 123, giving more complete information on WaterFOG equipment.

EXECUTIVES! A colored movie (16 mm.) showing tests of Rockwood WaterFOG, is available.

AKR-O-MIST
DOUBLE CONE VAPOR NOZZLE

Exclusive double concentric cone produces vapor of greater density—quickly generates inner cone of steam. • Opens with full 160° double conical vapor for wide coverage. A slight turn concentrates double vapor for greater distance. • Exclusive floating center baffle prevents clogging. • AKR-O-MIST with these and numerous other advantages is now serving the demands of war—and is also available to you.

PATENT No. 2,127,188

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO

AKRON BRASS
FIRE FIGHTING EQUIPMENT